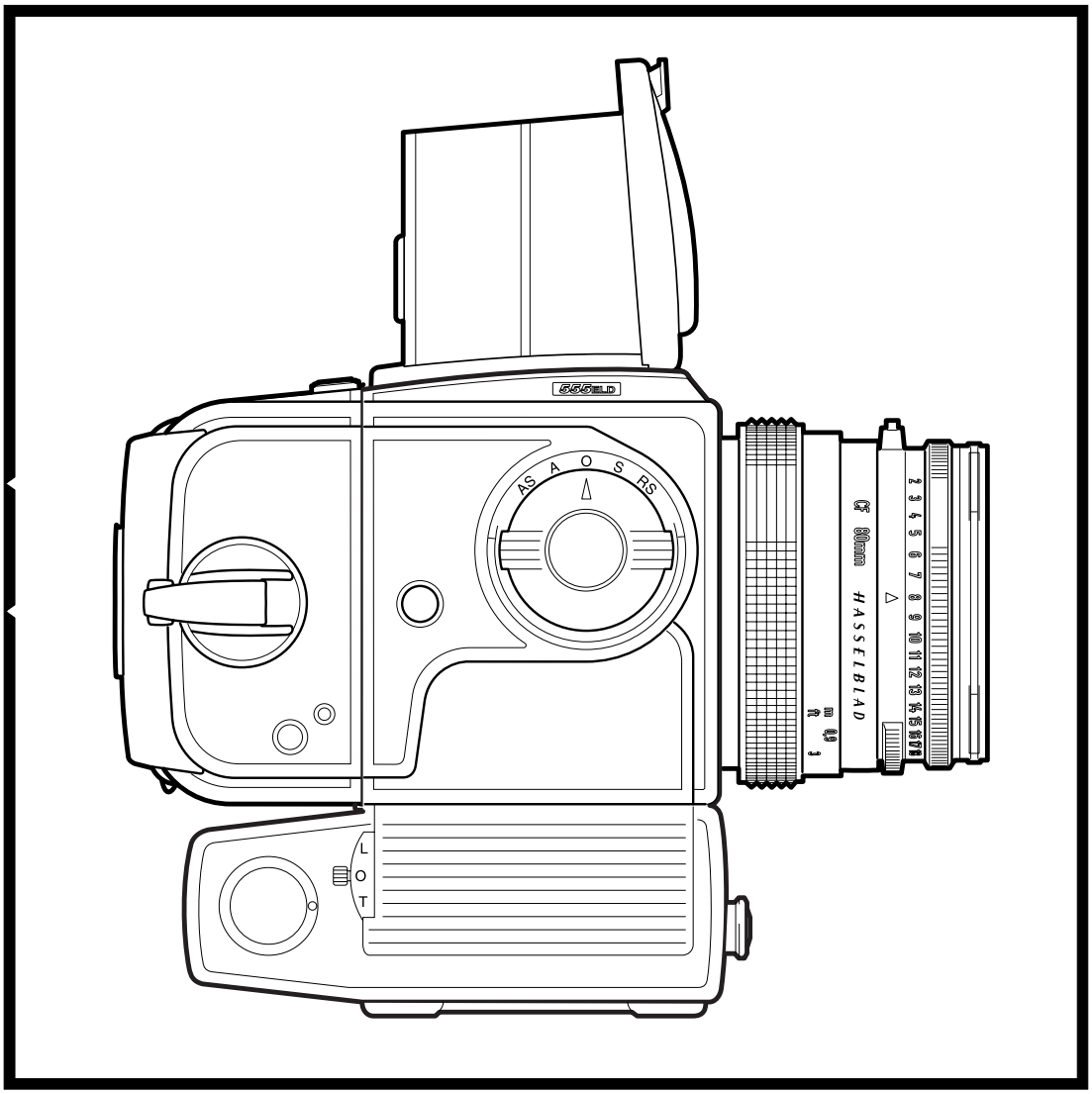
HASSELBLAD

Service Manual

555ELD



May 1999

Victor Hasselblad AB

Göteborg Sweden

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Camera body 555ELD

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555ELD - 553ELX - 500ELX

01/93	New screw holding the side cover - 553ELX and 500ELX
17/93	Fitted with wrong spacers - 553ELX
20/93	Redesigned flash metering circuit - 553ELX and 500ELX
23/95	New motor - 553ELX
12/96	Tripod foot adapter/kits
01/97	Rechargeable batteries discontinued - 500ELX
06/97	New tripod foot - 553ELX
03/99	Battery compartment - 553ELX
04/99	Release and S-arm redesigned - 553ELX and 500ELX
05/99	Preliminary spare part catalogue - 555ELD
07/99	New Service Manual - 555ELD
09/99	Mounting plate in motor housing modified - 555ELD
14/99	Battery compartment for AA batteries - 500ELX
01/00	New CD-ROM - Version 1.2
09/00	New CD-ROM - Version 1.3
14/00	Discontinued parts - 500 series cameras
01/01	Modified magazine hook - 555ELD
02/01	Modified motor unit - 555ELD
04/01	New CD-ROM - Version 2.0

Camera body 555ELD

General description

Camera type:	Medium format single lens reflex camera with a built-in motor, TTL/OTF flash metering and two release systems, one adapted for conventional photography, the other one for digital photography including integrated connections for digital camera backs.
Camera body:	One-piece, cast aluminium alloy shell with permanently attached motor housing in lightweight magnesium. Tripod socket threads 1/4" and 3/8", and tripod plate for rapid mounting.
Film format and film types:	6x6 cm and 6x4.5 cm with different film magazines; 120 and 220 rollfilm, 70 mm perforated long rolls and Polaroid film.
Film advance:	Automatic motorized film advance with simultaneous shutter winding and mirror return; maximum speed 1.3 frames/s. Remote shutter release via optional cord or IR control.
Lenses:	All CF/CFi/CFE/CB lenses from 30 to 500 mm, Teleconverter 1.4XE, Converter 2XE, Converter 2XE, Teleconverter APO 1.4XE and PC-Mutar 1.4X Shift Converter.
Shutter:	Lens leaf shutter. Speeds from 1 to 1/500 s and B. Time exposure lever on camera body.
Shutter / Mirror modes:	Five different shutter/mirror modes; single exposure with normal mirror function, sequential exposures with normal mirror function, pre-release of mirror for one single exposure, repeated pre-release for single exposures and pre-release for sequential exposures.
Flash control:	TTL centre-weighted dedicated system with OTF metering. Measured area Ø40 mm. Film speed range ISO 64 - 4000. Controls a wide variety of flash units using appropriate adapters (SCA-system).

Camera body 555ELD

General description

Viewfinder and focusing screen:	Foldable focusing hood with 5x magnification, interchangeable with 90º or 45º prism viewfinders or magnifying hoods. Bright Acute-Matte D* screen interchangeable for other types. Full viewfinder image with all lenses and accessories.
Adaption to digital backs:	Integrated databus connections interface directly to leading digital backs. A unique release system with separate front release port on camera activates the digital back.
Camera operation:	Electronic front release. Alternatively, the camera can be released remotely by optional cord or IR control. Selector dial for shutter/mirror release modes. Film speed selector for TTL/OTF flash metering. Battery check for alkaline batteries.
Battery/Capacity:	Five standard 1.5 V AA size alkaline batteries (LR-6 or AM-3) or rechargeable NiCd types. Up to 4000 exposures with alkaline batteries, less than 2000 exposures with fully charged NiCd.
Fuse:	5x20 mm 1.5 A medium slow-blow instrument fuse.
Dimensions:	Length 120 mm (4.7"), width 100 mm (3.9"), height 150 mm (5.9").
Weight:	1125 g (2 lb 8 oz).

IR Release unit:	Unit for infrared remote release of the Hasselblad 555ELD. Attaches to the front release ports of the camera and powered by the camera batteries. Can be set for normal or digital photography. Supplied with the Hasselblad IR Remote control 44113, which in normal conditions provides an operating range of approx. 10 m (33').
Dimensions:	Length 26 mm (1.0"), width 86 mm (3.4"), height 36 mm (1.4"), weight approx. 70g (2.5oz).

*Acute-Matte D designed by Minolta

Camera body 555ELD

Tool No.	Description	Used for
V-2211	Pin driver	Fitting the locating pin in the front plate and the front gear bracket
V-2229	Focal length gauge	Adjustment of the focal length, mirror 45ºangle and focusing screen
V-2236	Microscope	Focusing screen adjustment
V-4151/52	Focusing tester	Focusing screen adjustment
V-4705	Focusing screen adapter	Focusing screen adjustment
V-5423	Riveting jig	Replacement of aux. shutter flaps
902474	Test box ELX/CX	Calibration of the TTL flash meter
902658 (V-2075)	Key angle gauge	Adjustment of the front key angle
903202	Power supply adapter	Running the camera without batteries
970600	Service Test System	Calibration of the TTL flash meter

Motor Housing

Remove the lens, film magazine, viewfinder and focusing screen.

Unlock the battery cover, operate the release button and disconnect the battery cover at the exact moment when the auxiliary shutter is closed and mirror is in the upper position.

Peel back the small palpas cover hiding the screw (821033). Use the short screwdriver V-2245. Remove the inner side cover (22709).

Remove the cover (22928).

Fully wind the camera.

Remove the batteries and battery cover (30737 chrome or 30742 black).

Remove the socket cap (22470) from the side contact. Remove the two screws (820019) from the right hand plastic grip (40202). Peel back the leather on the side cover (chrome 30424 -1, black 30631-1) and remove the screw (823017) underneath. The side cover and the plastic grip can now be removed.

Remove the cover (Chrome 21292, black 22117) from the motor housing.

Unplug the release button (46120) from the release socket
Fig. 1.

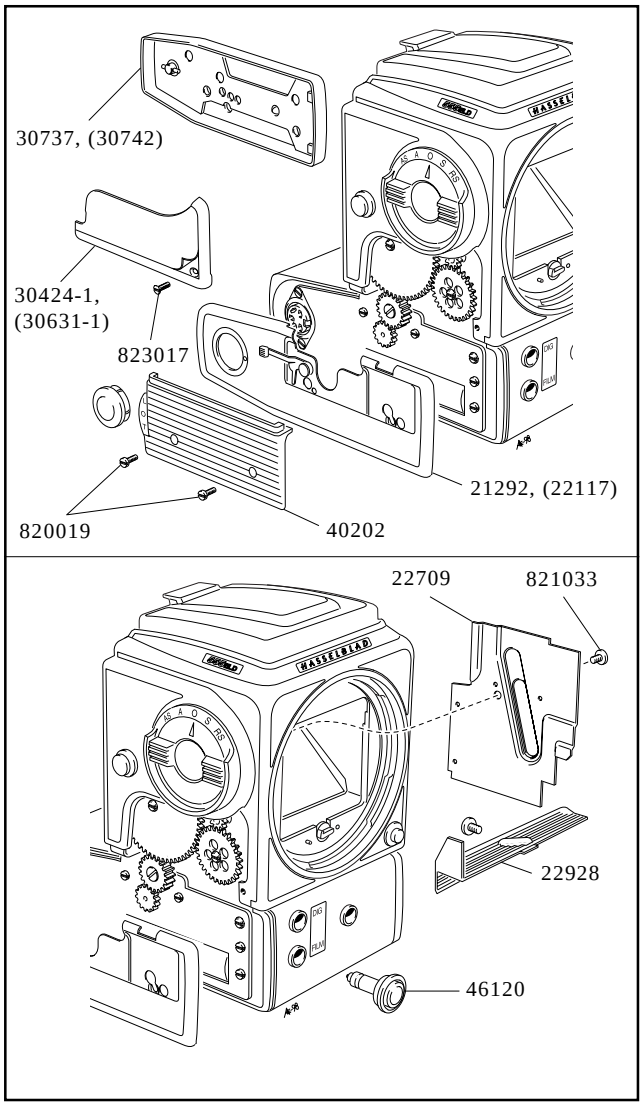


Fig. 1

Remove the four screws, two (820042), two (823017) and loosen the contact flex (22915) from the motor unit and pull it clear of the motor housing. At this point the fuse assembly (815855, 21305, 22342 and 13593) can also be removed. Finally, push out the battery compartment (50178).
Fig. 2.

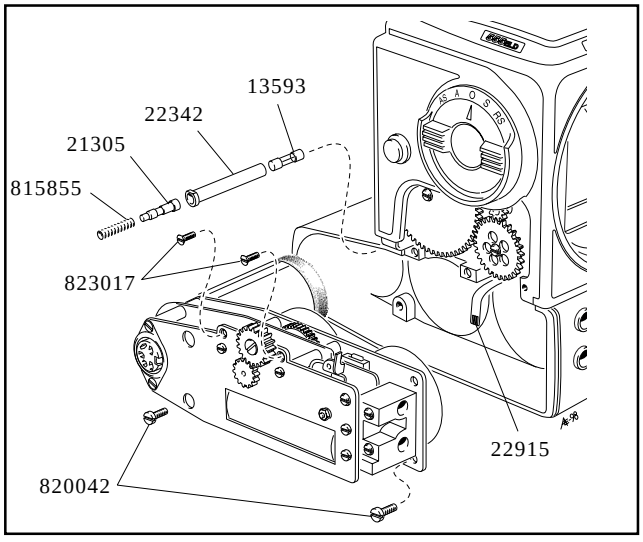


Fig. 2

Remove the tripod foot (30763) by removing the six screws (829790) and the rubber support (30778) held by double-sided tape. When the tripod foot and the rubber support have been removed, four holes are exposed allowing access to the four screws (823745) holding the motor housing (30801) to the main camera body. Insert a screwdriver through the access holes and remove all four screws. The motor housing can now be removed from the main body of the camera.
Fig. 3.

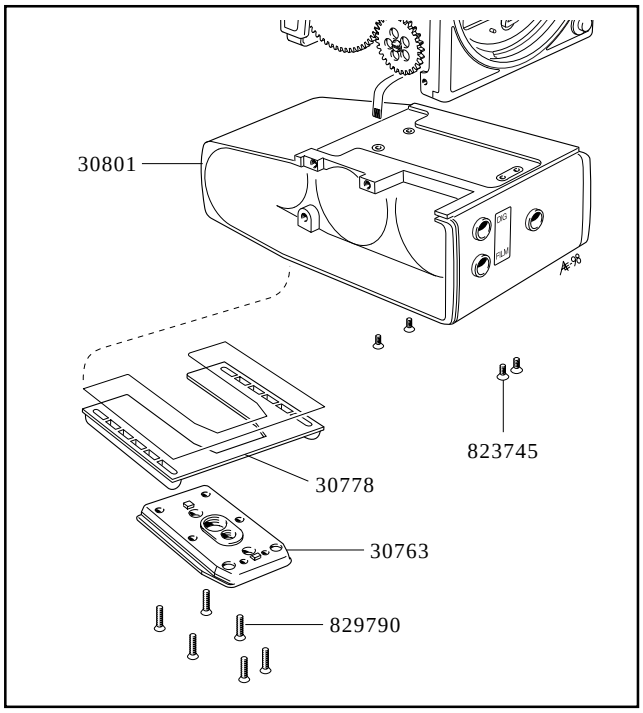


Fig. 3

Motor unit

Remove the to long screws (823049) from the side contact (13604). The contact will now pull clear but will still be connected to the motor (22827) and the wiring. If no further disassembly is to take place, then care should be taken that this wiring is not broken. Unsolder the brown, red, and blue wire from the micro switch (13605). Remove the three screws (824205).
Fig. 4.

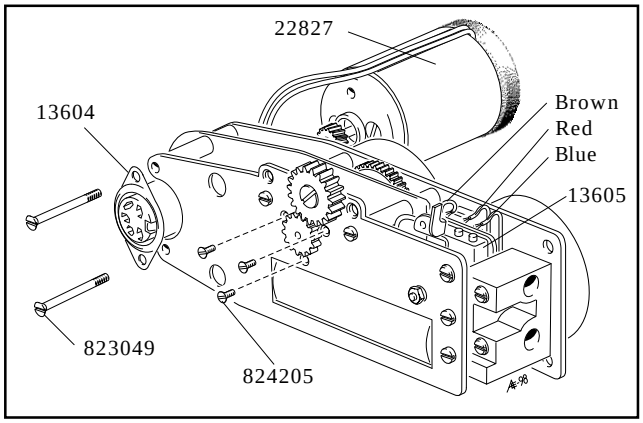


Fig. 4

Remove the screw (821012) and the gear (13566). Remove the two long screws (820048), that pass through the outer mounting plate, then through the connecting terminal and into the inner mounting plate. Remove the two short screws (820041 and 820042) located on both sides of the gear (13566) and the two washers (810613). Gently remove the outer mounting plate (21290).
Fig. 5.

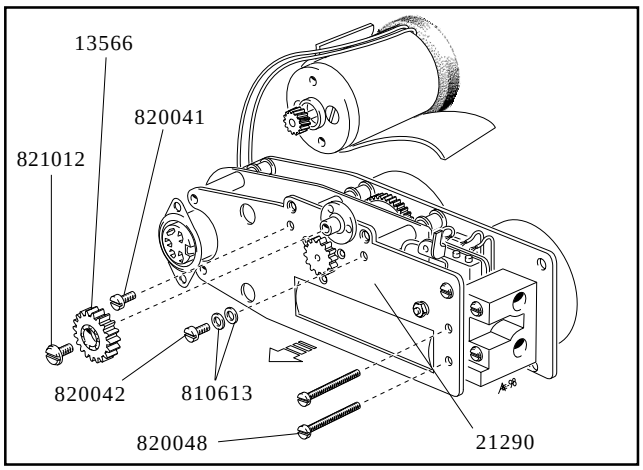


Fig. 5

Camera body 555ELD

Disassembly

To remove the parts from the outer and inner mounting plates proceed as follows (see the exploded views 13 and 14):

Remove the small nut (828001), eccentric (22352) and bearing pin (14100). Remove the screw (821033) and washer (810532) and the micro switch (13605) can be separated from the outer mounting plate. Remove the link (22351), clip (817112) and stop arm (13571). Disconnect the spring (814601), remove clip (817115). Separate the magnet arm (13561) and the clutch arm (14099) from the outer mounting plate. Remove the two bearings (13528).

Remove the three plastic tubes (13606) from the inner mounting plate. Remove the four screws (821033) and disconnect the green, black, blue and red wires from the connecting terminal (30435). Fig. 6.

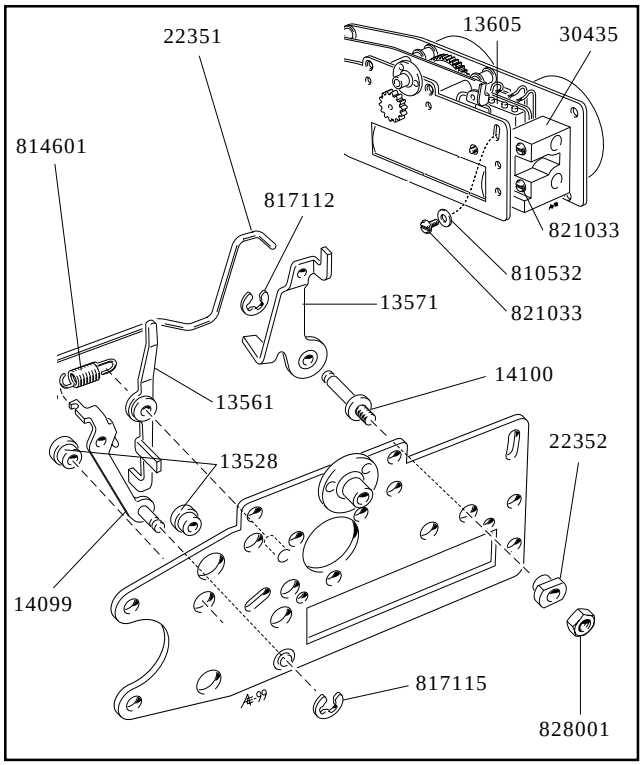


Fig. 6

Remove the foam pad (22823). Unsolder the blue wire from the sheet metal shield marked "+" of the motor, the white wirer right opposite and the capacitor (853549). The motor can now be separated from the remainder of the motor unit.
Fig. 7.

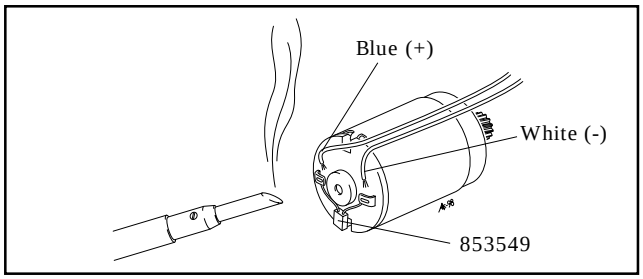


Fig. 7

Unloosen the screw (820020) and disconnect the blue wire connected to the inner mounting plate (ground). Lift carefully the PC board (22913) a bit and remove the gears (13565, 13563 and 13564).
Unsolder the red wire from the contact spring (22646) and separate the PC board from inner mounting plate. Unsolder the solenoid (30421).

Camera shell

Remove the circular piece of leather (13374) from the centre of the mode selector and then remove the two screws (823023) beneath it. Withdraw the selector knob (30429), thus exposing a further two screws. Remove these two screws (820014) together with their washers (810613) and (810607), and then withdraw the symbol plate (30682), together with the washer (13541) and spring (816906). Remove the circular piece of leather (13374) on the ISO selector (22495) and remove the set screw beneath it. When withdrawing the selector care must be taken that the spring loaded dog (22533) does not spring free.
Fig. 8.

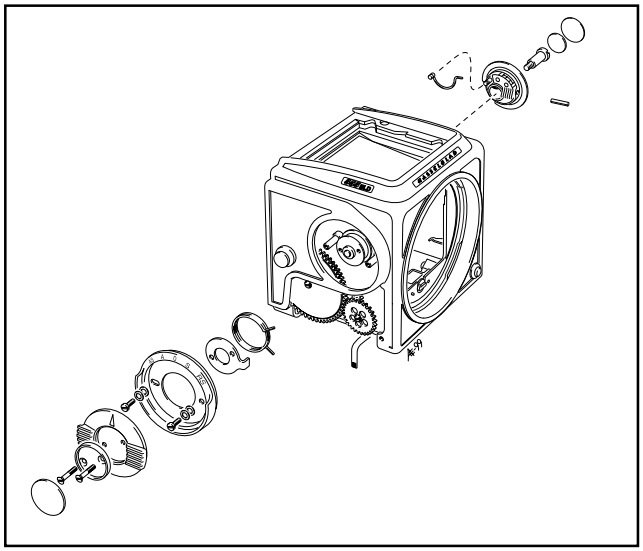


Fig. 8

Remove the two long screws (823781) located towards the front of the camera shell. Remove the two short screws (823755) located towards the rear of the camera shell.

Remove the cap (22470) from the chassis connector and peel back the leather (22455) covering the two screws (823335). Remove these screws and push the chassis connector into the body of the camera. The shell can now be separated from the body.
Note: Care must be taken so that the flex (22915) will not become damaged during the separation.

To accomplish this separation requires manipulation of the shell and body in order that the gearing, on the right hand wall of the camera shell, does not snag on the camera shell. When the shell and body have been separated the teflon button (103773) can also be removed if required.
Fig. 9.

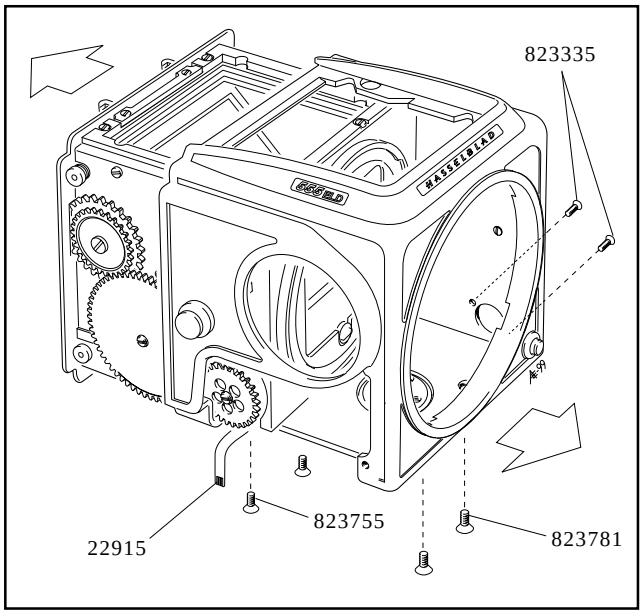


Fig. 9

Circuit board and contact flex

CAUTION! When handling the circuit board a grounded bench mat and a wrist strap must be used to prevent ESD damage.

Remove the screw (820019) and the washer (810407) that secures the micro switch (852589). Loosen carefully the cables (22931) from the chassis. Remove the two screws (820011) from the grounding attachment (22918). Remove the screw (820011) that secure the cable holder (12453). Remove the two screws (820325) that secure the photodiode and the two screws (820015) that secure the PC board. Loosen carefully the contact flex (22915) from the bottom side of the chassis. The circuit board, also secured by double-sided tape, can now carefully be separated from the assembly.
Fig. 10.

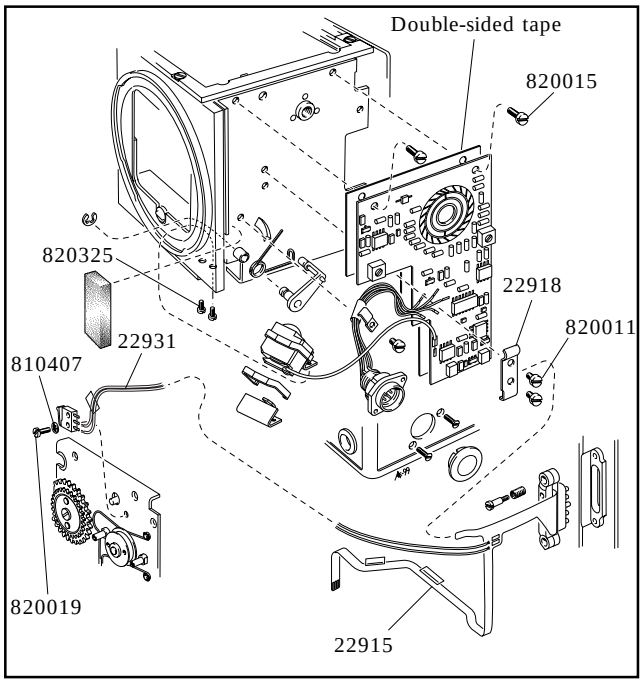


Fig. 10

Rear plate

Remove the screw (821033) from the centre of the large gear (13557) and lift the gear clear. With the gear removed an additional screw is exposed which must also be removed (820025). Remove the screws (820013 and 820015) securing the rear plate to the left hand wall, the two screws (820015) on the underside and the screws (821017) on the upper side.

Release the camera.

Remove the clip "A" (817115) located in the centre of the actuating part (13551). Tension the camera somewhat by turning the gear (13556) clockwise and pull out the rear plate approximately 10 mm. Remove the clip "B" (817115) that secure the upper actuating arm (13580) and disconnect it from the actuating part. Lift the actuating part clear of its stud. Keeping track of the spacer (13547), the rear plate can now be separated completely from the remainder of the assembly.

Remove the two screws (105412) and the two springs (815511). The contact flex (22915) can now be separated from the rear plate.
Fig. 11.

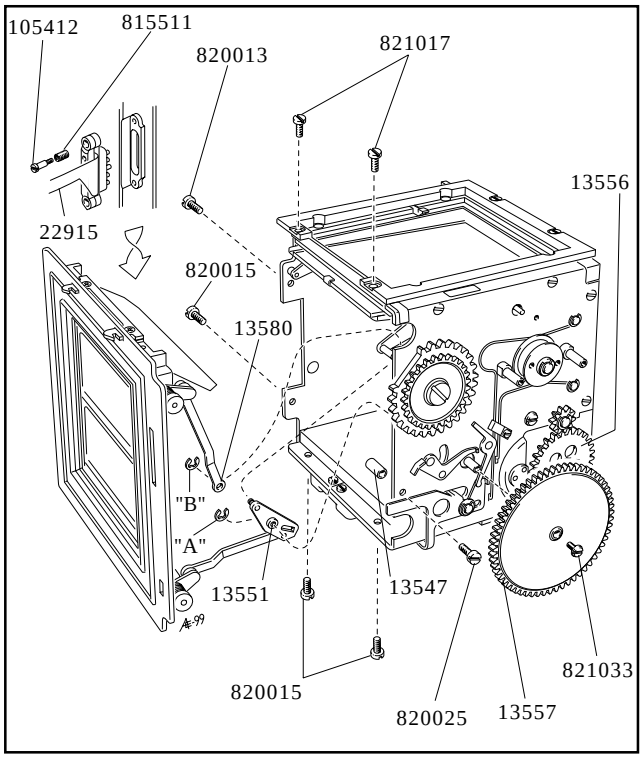


Fig. 11

Focusing screen frame

Remove the two long screws (823028) that secure the frame to the side walls. Remove the screws (821017) that secure the frame to the top of the camera body. The frame (22980) can now be separated from the remainder of the assembly.
Fig. 12.

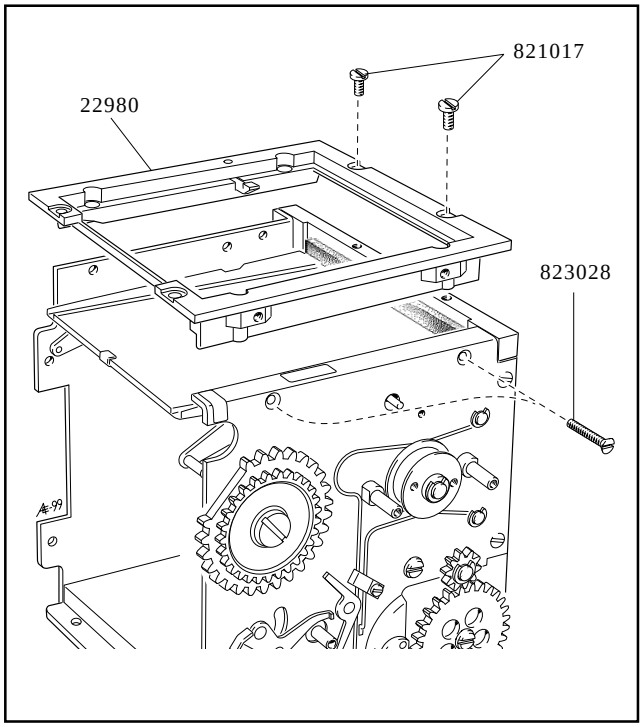


Fig. 12

Mirror

Disconnect the mirror hinge (30754) from the two pins "A" and release the pin "B" on the mirror frame, from the mirror lever (22460). The complete mirror (30716) can now be separated from the remainder of the assembly.
Fig. 13.

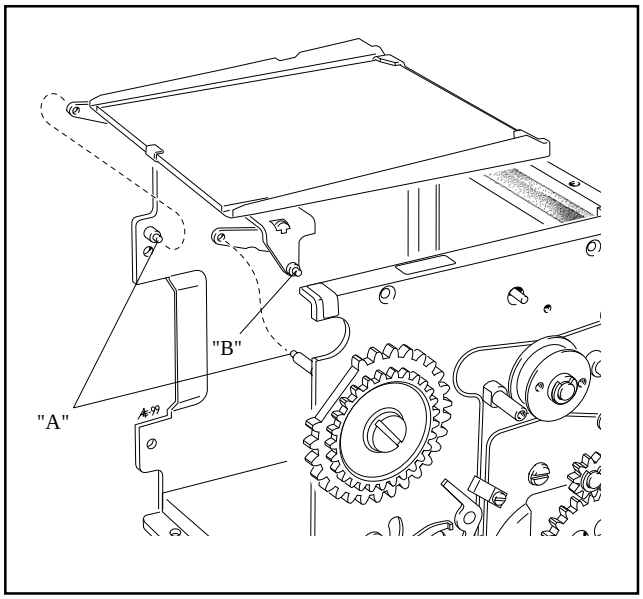


Fig. 13

Front bayonet plate

Remove the two screws (820015) located at the rear of the bayonet plate. Remove the two screws (823655) that secure the bottom of the bayonet plate to the main camera body. Remove the two screws (823015) that secure the bayonet plate to right hand wall of the camera body (i.e. the side upon which the mode selector is mounted).

When separating the bayonet plate from the rest of the camera body a firm grip should be maintained on the gear (13556), thus ensuring that tension on the spring behind it is not quickly relieved.

When the bayonet plate has been separated from the rest of the camera body the gear should be gradually released allowing the tension on the spring to be gradually relieved. Remove gear (13556) and disc (21324)) with screw (821033) from bayonet plate.
Fig. 14.

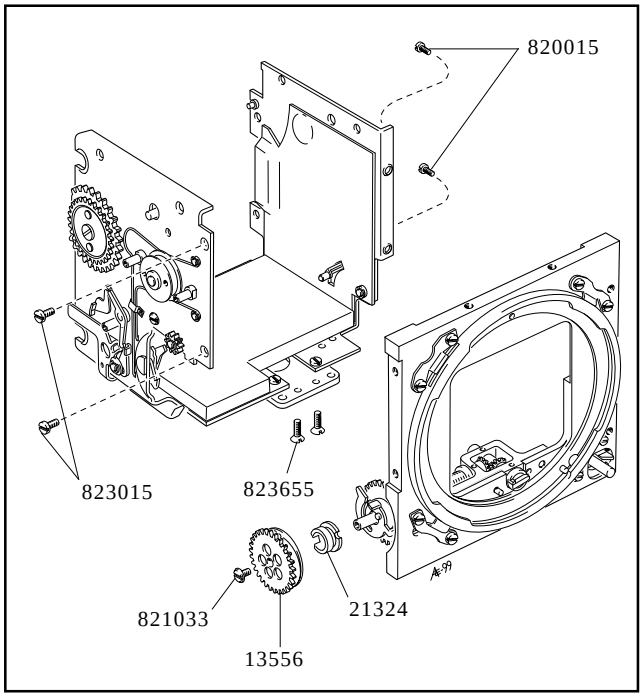


Fig. 14

Right and left hand wall

Remove (or cut) the foam plastic pad (22513) to get access to the screws (820014). remove the right hand wall.
Fig. 15.

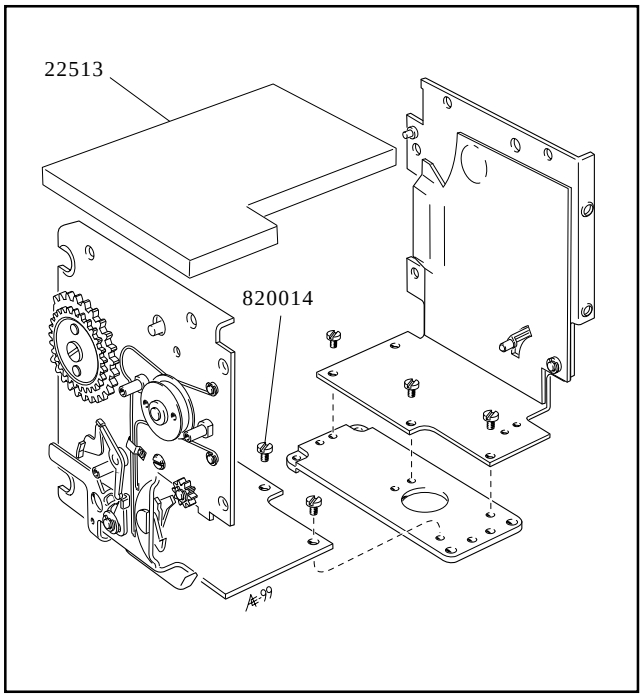


Fig.15

Mechanism plate

To dismantle the right and left hand wall proceed using the following sequence:

Inner wall right

Remove the spring (814862). Remove the two screws (820013) that secure the support (30701).

Remove the clip "A" (817115) and lift the plate (22714).

Lift the arm (22896).

Remove the spring (814861), clip "B" (817115) and washer (810532). Lift the mirror actuating arm (22458) and the mirror lever (22460). Remove the teflon washer (810761).

Remove the screw "C" (821033) that secures the gear (22476) to the inside wall, then lift the gear clear.

Lift the auxiliary shutter arm (13554) clear.

Disconnect the springs "D", "E" and "F" (814302, 814706 and 814509).

Remove the clip (817123) and two washers (810702/705). Lift the locking arm (21219) clear, together with the washer (810702) underneath. Lift the S-arm (22923) clear together with the washer (810702). Lift the B-arm (21221) clear together with the washer (810703).
Fig.16.

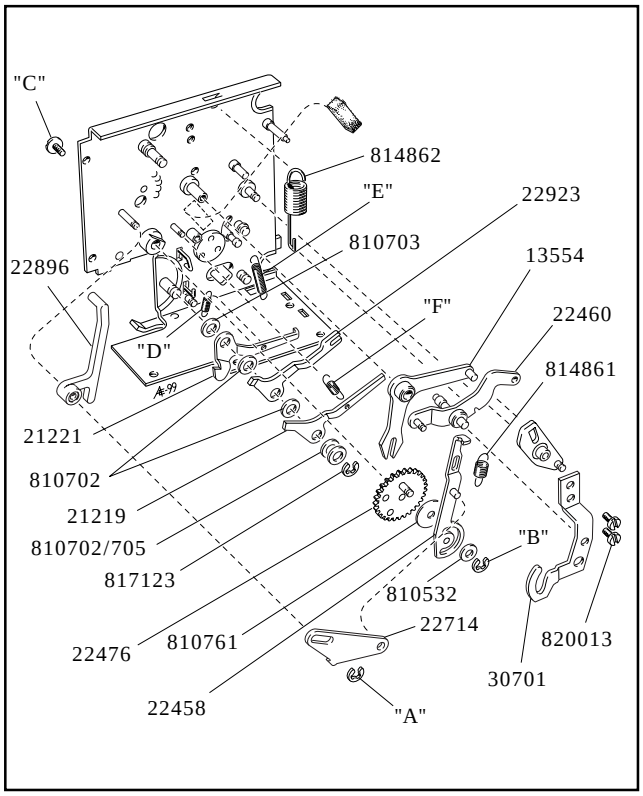


Fig. 16

Outer wall right

Remove the screw (821012) and lift the gear (13558) clear, together with the washer (810854).

Remove the clip "A" (817119) from the inside wall. The release arm (22922) can now be lifted clear of the outside wall.

Remove the clip (817112) from the inside wall. The release catch (13570) and the torsion spring (816608) underneath can be lifted clear of the outside wall. Remove the draw spring (814309) that connects the release lever (30793) to the stop (22317).

Remove the clip "B" (817115) and washer (810538), then lift the release lever clear. Remove the clip "C" (817119) and lift the gear (13567) clear, together with the dog (13525).

Remove the clip (817123), the washer (810702/705) and the selector (13559). Remove the screw (820011) and cable holder (12453).

Remove the two clips "D" (817115), then remove the S-wire (21223) and the A-wire (21224). Fig. 17.

The dismantling procedure for the Hasselblad 555ELD is now completed.

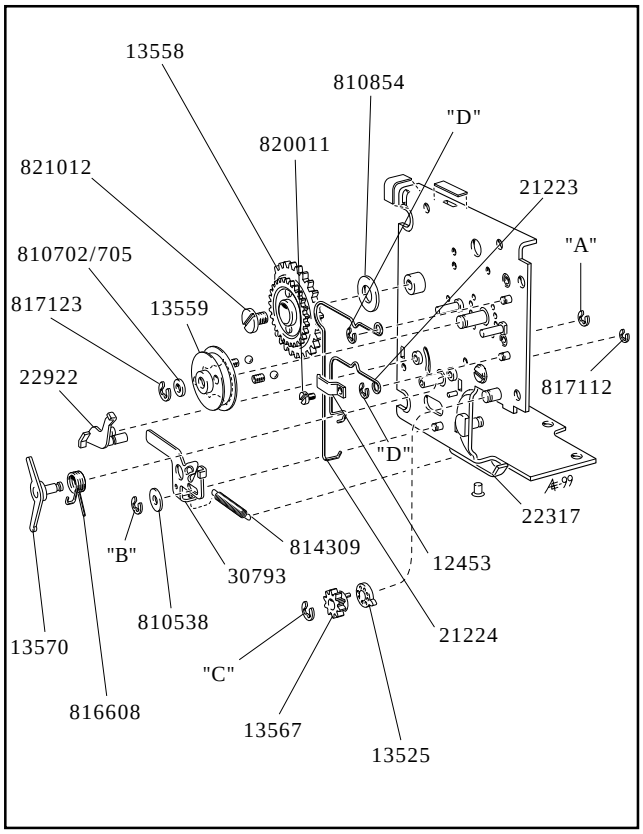


Fig. 17

Lubricate the camera as detailed in the appropriate lubrication chart. Use the lubricants listed below:

● = Isoflex Topas L32

○ = Mollykote - X

■ = Isoflex PDP-48

□ = Gleitmo 805-K

▽ = Loctite, e.g. Loctite 243

▼ = Safety lacquer

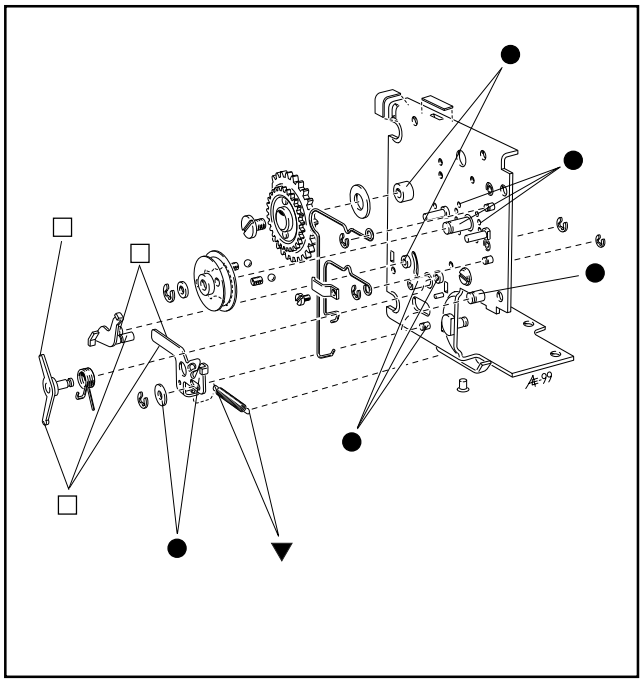


Fig. 18

Mechanism plate

To reassembly the right and left hand walls proceed using the following sequence:

Outer wall right

Lubricate according to Fig. 18.

Locate the A-wire (21224) and the S-wire (21223) and secure them into place with the two clips "D" (817115).

Fit the cable holder (12453) over the A and S-wires and fit the screw (820011). Fit the selector (13559) and secure it into position with the washer (810702/705) and the clip (817123).

Fit the release lever (30793) and secure it into position with the clip "B" (817115) and washer (810538). Refit the draw spring (814309) securing both ends of the spring.

Fit the torsion spring (816608) and the release catch (13570) and secure them into position using clip (817112). Note: This clip is fitted on the inside wall.

Fit the release arm (22922) and secure it with the clip (817119) which clips on from the inside wall.

Fit the gear (13558) and washer (810854) and then fit the screw (821012).
Fig. 19.

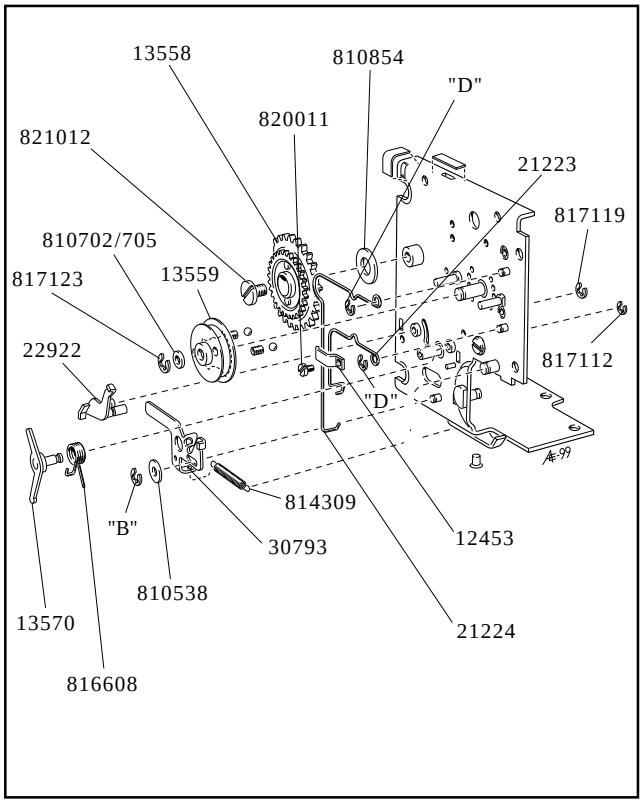


Fig. 19

Outer wall right

Lubricate according to Fig. 20.

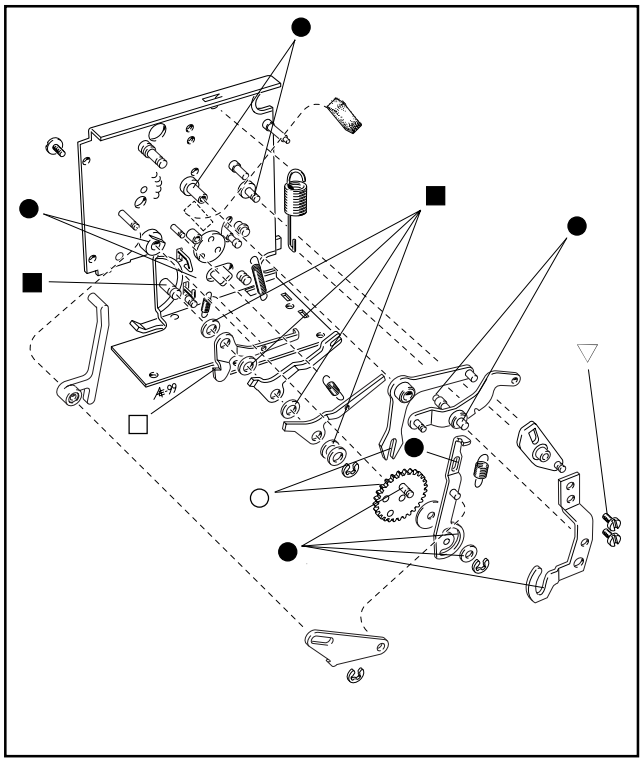


Fig. 20

Fit the washer (810703) followed by the B-arm (21221), then fit the washer (810702) followed by the S-arm (22923).

Fit the washer (810702) followed by the locking arm (21219) and the two washers (810702/705) and secure them into place with the clip (817123).

Fit the auxiliary shutter arm (13554).

Fit the gear (22476) and secure it into position with the screw "C" (821031) from the outside wall. Check the function.

Fit the mirror lever (22460).

Fit the teflon washer (810761) on the top of gear (22476).

Fit the mirror actuating arm (22458) followed by the washer (810532) and secure with the clip "B" (817115).

Fit the arm (22896) and the plate (22714). Secure them into position with the clip "A" (817115). Check for easy of operation.

Fit the support (30701) and secure it in position with the two screws (820013).

Fit the spring (814862).
Fit the spring (814861).
Fit the spring "F" (814509).
Fit the spring "E"(814706).
Fit the spring "D" (814302) Note: Secure the spring with safety lacquer.
Fig. 21.

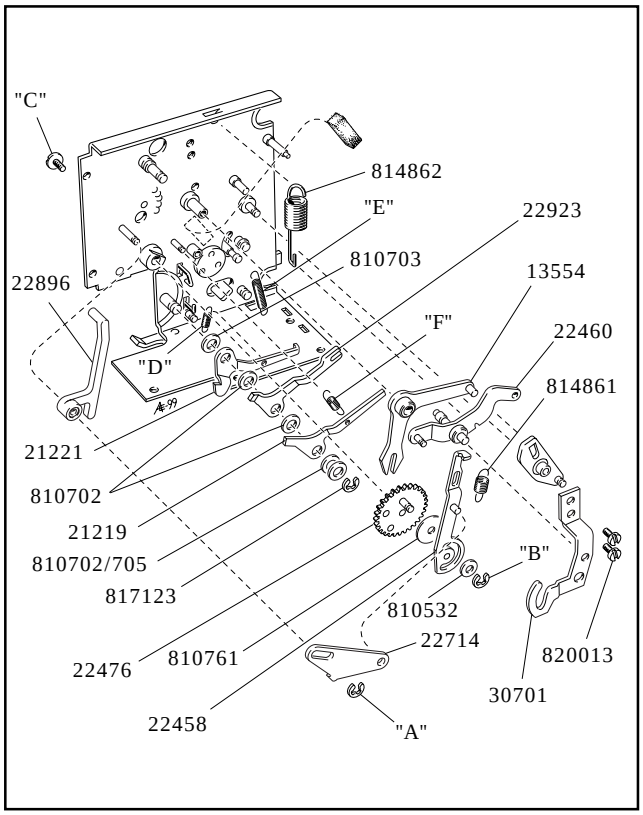


Fig. 21

Release catch/arm adjustment

Check and if necessary bend the release catch (13570) at the arrow so that it is engaged by approximately 1mm.
Fig. 22.

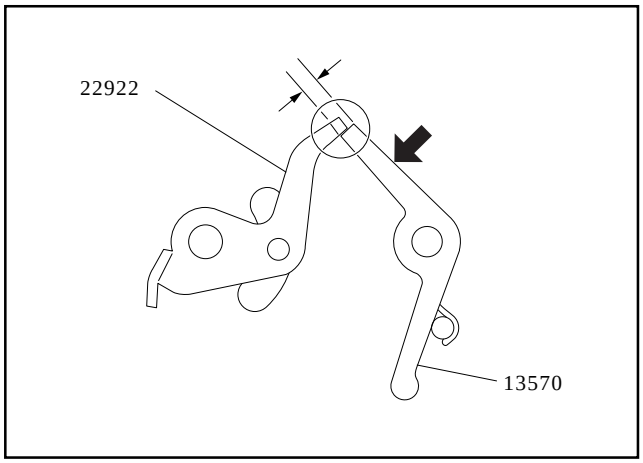


Fig. 22

Refit the gearwheel (13557) temporarily. Rotate the gear anticlockwise and check that the overtravel on the release arm (22922) is approximately 1mm with respect to the release catch (13570).

If adjustment is required, bend the angle on the release arm (22922) see arrow.
Fig. 23.

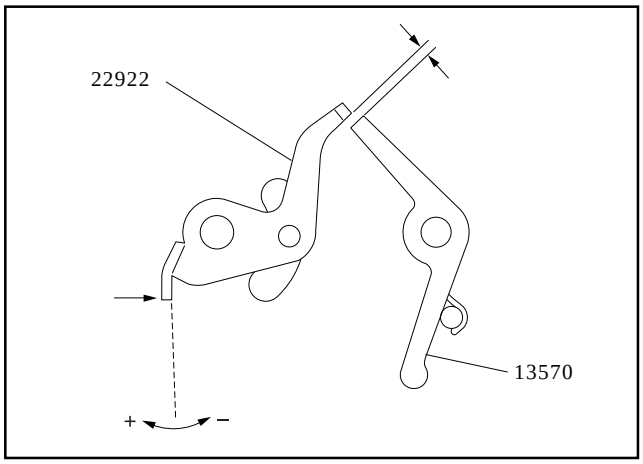


Fig. 23

Locking arm adjustment

Check that the arms move easily without axial play. If there is play on the locking arm (21219) then fit a further washer (810702/705) in addition to the two already fitted. If the arms are sluggish then try a thinner washer.
Fig. 24.

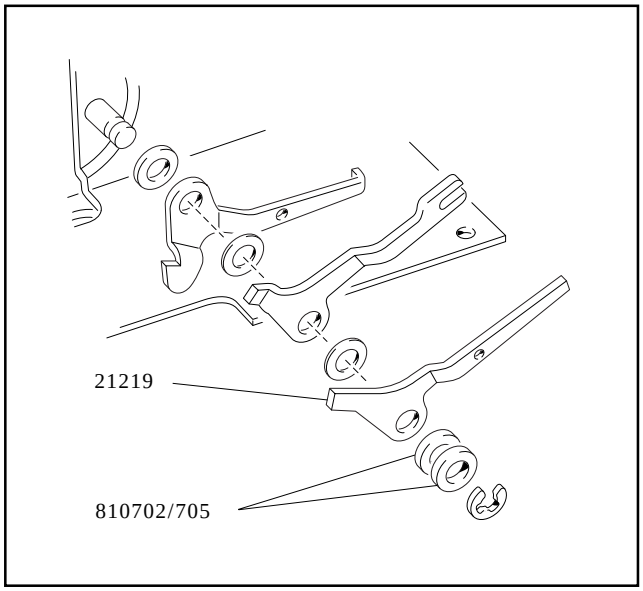


Fig. 24

Left hand wall

Check the tension of the spring (816864). This should be between 40 and 60 grams.

Adjust by bending the spring (816864) as indicated in Fig. 25.

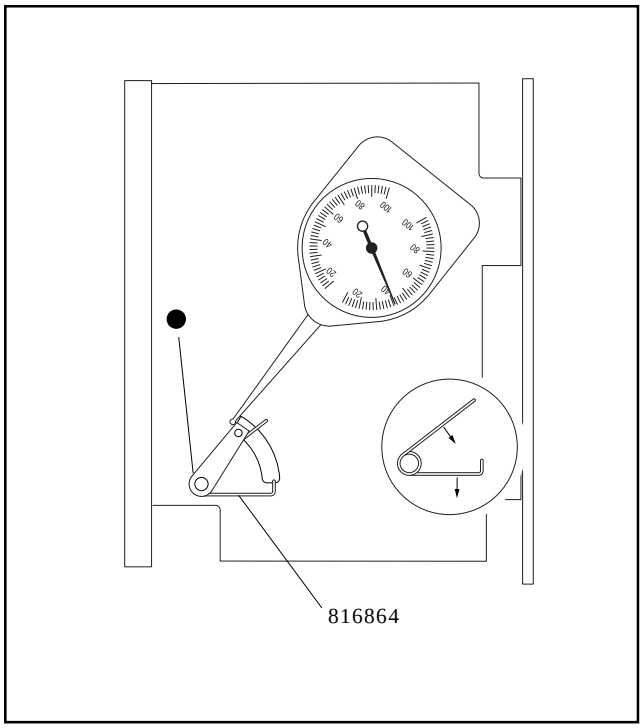


Fig. 25

Fit the left and right hand walls together and secure with the screws (820014). Fit the foam plastic pad (22513).
Fig. 26.

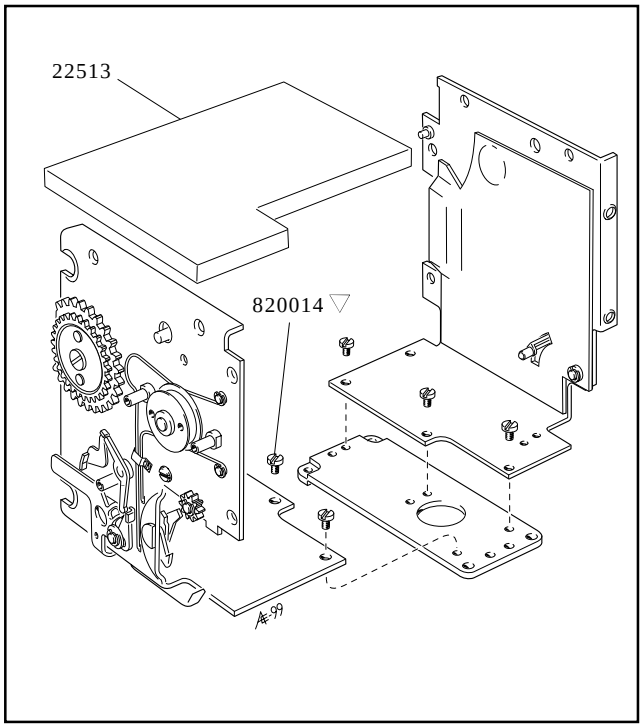


Fig. 26

Front bayonet plate

Before fitting the bayonet plate (30706-1) make sure the camera is released. This is done by turning gear (22476). Note that the pin "A" should be visible from the outside.
Fig. 27.

Fitting the front bayonet plate to the camera body:

Tension the drive spring by turning the front gear wheel (30413) clockwise 3 turns.
Fit in the lower part of the bayonet plate so that the check "C" on the front gear cam plate is stopped by the spring (22317). Ensure that the two indexes "A" and "B" are aligned opposite each other and that the upper part of the bayonet plate is put into position.
Fig. 27.

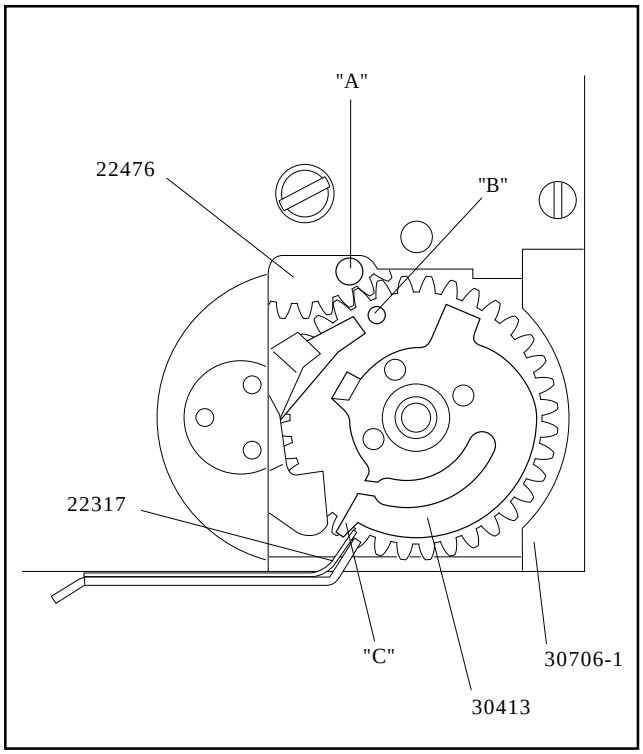


Fig. 27

Secure the bayonet plate to the right hand wall using two screws (823015). Secure the bayonet plate to the bottom of the main camera body using two screws (823655). Refit the two screws (820015) to the rear of the bayonet plate.
Fig. 28.

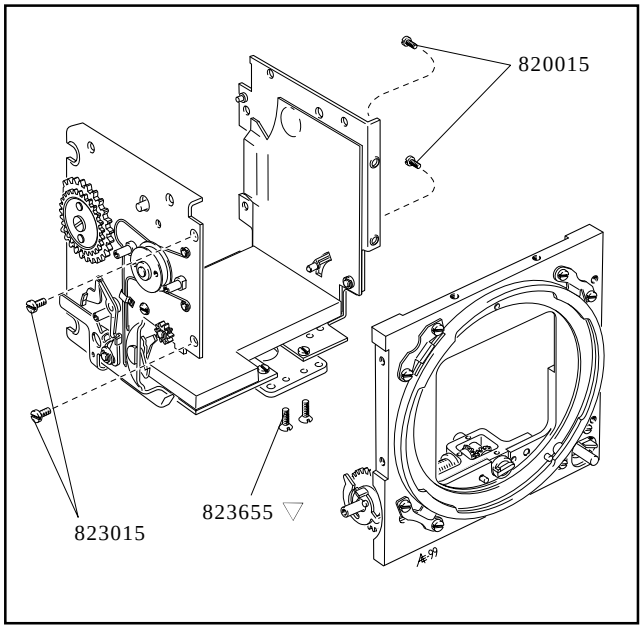


Fig. 28

The key position of the front gear is checked with the camera cocked. This is carried out as follows:

Fit the blade of a screwdriver in the slot on the front gear wheel (30413). Turn the gear in a clockwise direction until the check "C" has passed the locking arm (21219). In this position it is now possible to cock the release arm (22922) against the release catch (13570). Continue the cocking action until the locking arm (21219) operates and is blocked against the check "D".
Fig. 29.

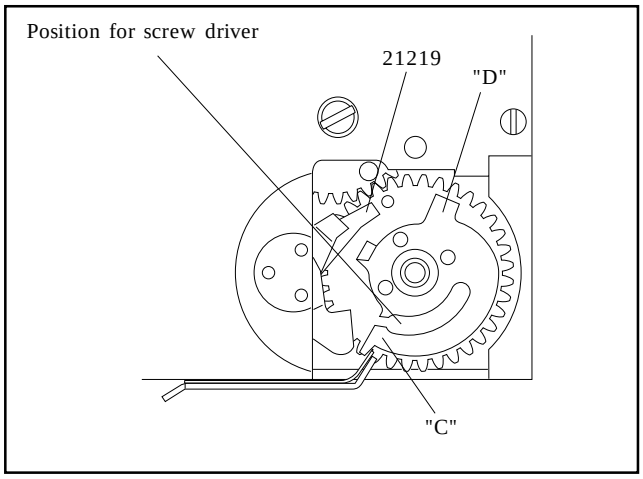


Fig. 29

Mount the key inspection tool 902658 (V-2075) to the camera's front bayonet plate. Ensure the indicator is pointing upwards when the camera is cocked.
Fig. 30.

With the tool 902658 (V-2075) fitted to the front of the camera, the key position should have a minimum of 3º with a load of 1400 gram-centimetres and a maximum of 9º with 300 gram-centimetres. Remove the tool.
Fig. 30.

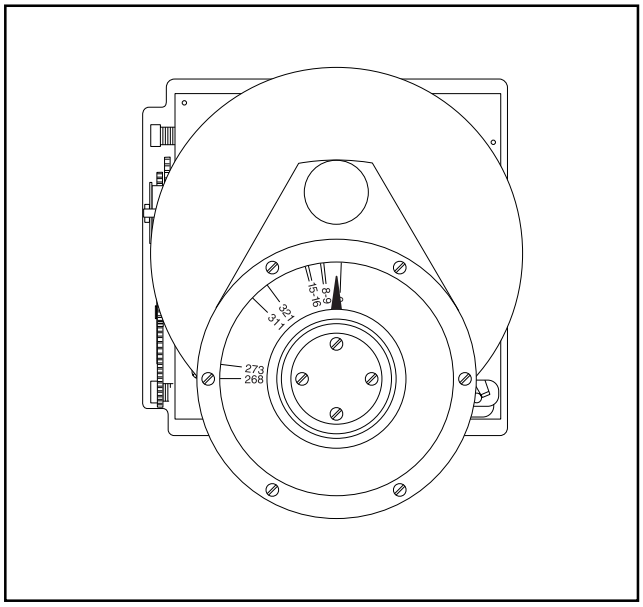


Fig. 30

1. If the measured value is less than 3º, replace the ordinary locking arm (21219-2) by a locking arm which is 0.2 mm longer. This arm is designated (21219-1).
2. If the measured value is more than 9º, replace the ordinary locking arm (21219-2) by a locking arm which is 0.2 mm shorter. This arm is designated (21219-3).
3. If the above-mentioned adjustment is insufficient, a new front gear (30413) must be fitted on the bayonet plate.

Mirror

Lubricate according to Fig. 31.

Make sure the camera is released. Locate the mirror (30716) into position. Connect the mirror hinge (30754) to the two pins "A".

Relocate the pin "B" on the mirror frame to the mirror lever (22460).
Fig. 31.

Test the function of the mirror by fitting the blade of a screwdriver in the slot on the front gear wheel and cock the camera. Release by moving the release catch (13570) to the rear.
Fig. 29

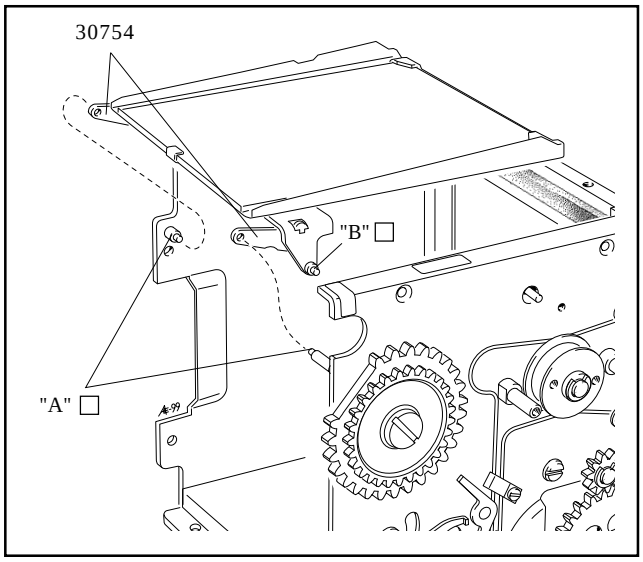


Fig. 31

Focusing screen frame

Refit the focusing screen frame and secure it as follows:

Refit the two long screws (823028) to the right hand side wall and two short screws (821017) to the top of the frame.
Fig. 32.

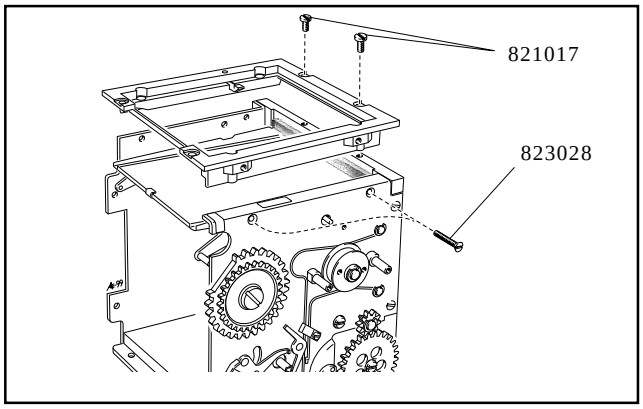


Fig. 32

Rear plate

Fit the springs (815511) to the screws (105412).
Fit the contact flex (22915) to the rear plate and secure it into position with the above mentioned screws.

Lubricate according to Fig. 33.

Release the camera. Fit in the actuating part (13551) and secure it in the position with the clip "C" (817115).

Locate the upper actuating part (13580) around the pin "D" and fasten it to actuating part (13551). Secure it in position with the clip "E" (817115).

Locate the spacer (13547). Note: Turn the front gear (30413) somewhat in a clockwise direction.

Locate the rear plate into position and secure it with seven screws, note the long screw (820025) is fitted on the right hand wall and the short one (820013) at the top of the left hand wall.
Fig. 33.

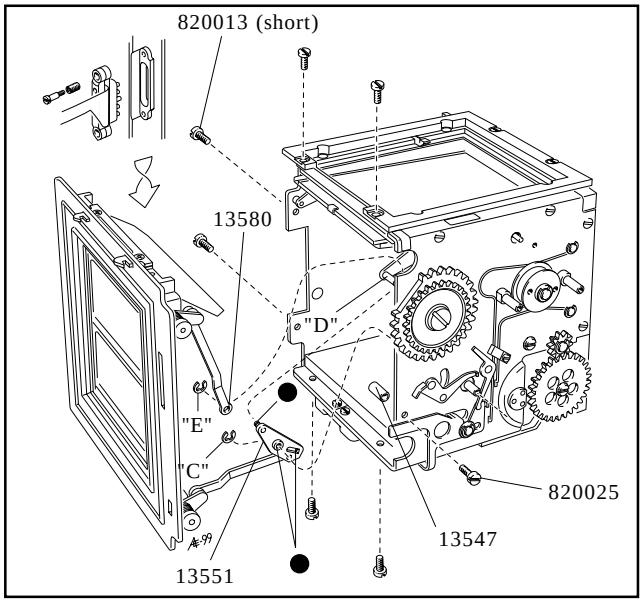


Fig. 33

Seal between the rear plate and the left side wall using black silicone or similar as shown in Fig. 34 to ensure a tight light seal.

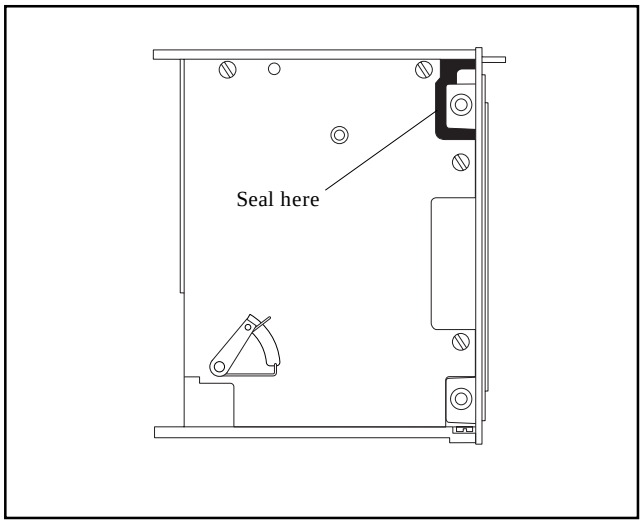


Fig. 34

Preliminary adjustment of the focal length

71.40 ± 0.03 mm
Mount the front plate "A" in the front of the camera body and place the camera with the rear section in control tool V-2229.

Check that the rear section is flat.

If the rear section is warped, the first procedure is to ensure that both the inner walls of the camera are in good contact with the inside of the rear section. This is carried out by knocking carefully on the front plate with a plastic-faced hammer.

If this operation is insufficient, it is possible to adjust the warp at the corners which may be too low.

Loosen the two nearest screws and push the rear section backwards until it is flat. Then tighten the screws.

Place the camera body in control tool V-2229 without tensioning it. Set the ruler with the indicator clock to zero by placing it on surface "B".
Fig. 35.

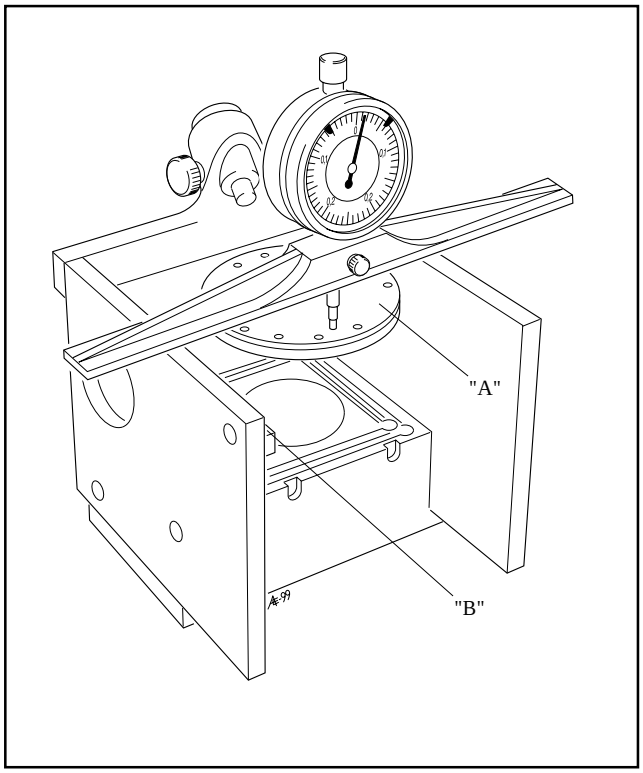


Fig. 35

Place the ruler with indicator clock onto the gauge and move the indicator around the periphery on the front plate and check that the length is within the tolerance.

If the camera body is too short, on the left-hand side, then the front must be moved forward on this side. This is carried out by knocking on the angle on the left wall which provides the support for the bayonet plate. A solid fibre rod and a suitable hammer are used for this operation.

Re-check as described above.

If the camera is too short on the right hand side, it must extended. This is carried out by moving the rear section to the rear. Loosen the screw (820025) on the right wall (30748), the screw (820015) on the bottom of the camera and the screw (820017) on top of the camera. Insert the blade of the screwdriver first in one and then in the other of the two rectangular recesses in the rear edge of the right wall close to the rear section and turn carefully. Then tighten the screws and check on control tool V-2229 that the rear section has not become distorted during adjustment. Fig. 36.

Check the length measurement above.

If the total length measurement of the camera body is too long, adjust the bayonet front plate downwards by knocking on the front plate "A" at the points where necessary.

Re-tighten all screws retaining the rear section, the front plate and the frame.

Note! The focal length is checked once more when the camera is fully reassembled.

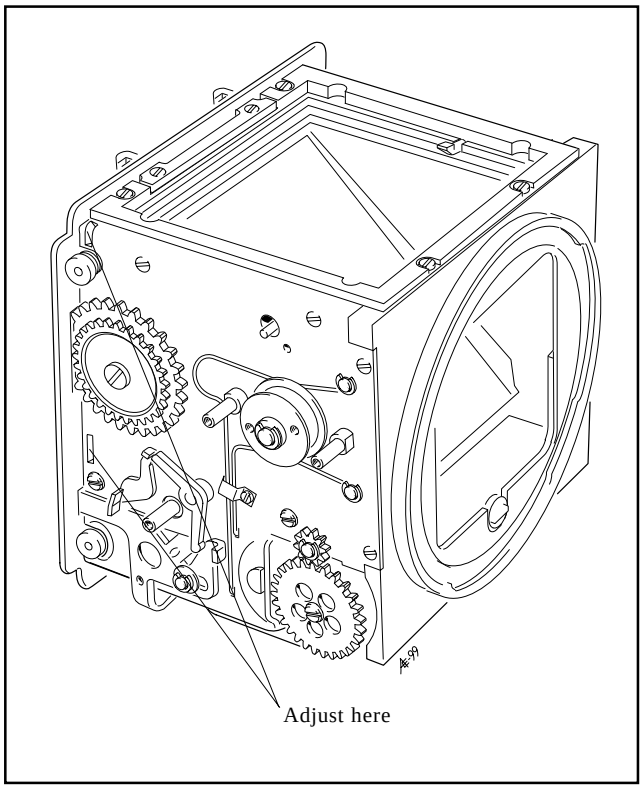


Fig. 36

Dog (13525), gear (13567) and gear (13556)

Cock the camera as follows:

Fit the blade of a screwdriver in the curved slot on the front gear (30413). Turn the gear in a clockwise direction until the check "C" has passed the locking arm (21219). In this position it is now possible to cock the release arm (22922) against the release catch (13570). Continue the cocking action until the locking arm (21219) operates and stops against the check "D".
Fig. 37.

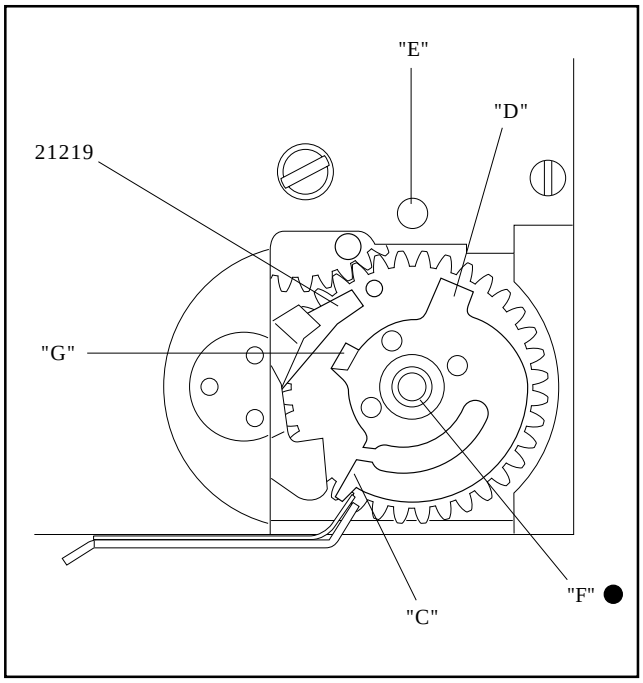


Fig. 37

Lubricate the front gear journal "F". Locate the dog (13525) onto the pin "E" with the bent lug upwards. Place the disk (21324) with the large flange downwards on the front gear journal. The recess in the disk fits against the pin on the front gear cam disk.

Check that both catches on the gear (13556) move easily and that the spring-loaded setting hook returns under the influence of its own spring. If the movement of the catches should be doubtful, this can possibly be adjusted by carefully bending the ring which is riveted on.

The gear (13556) is fitted so that the point of the hook which is not spring-loaded comes into contact with the recess in the disk (21324). Turn the gear in a clockwise direction until the spring-loaded setting hook stops against the check "G" as shown in Fig. 37.

The dog (13525) is backed off in an anti-clockwise direction so that the bent lug rests against the periphery of the spring-loaded setting hook in gear (13556).

Fit gear (13567) with the pin pointing downwards from "E".
Fig. 37.

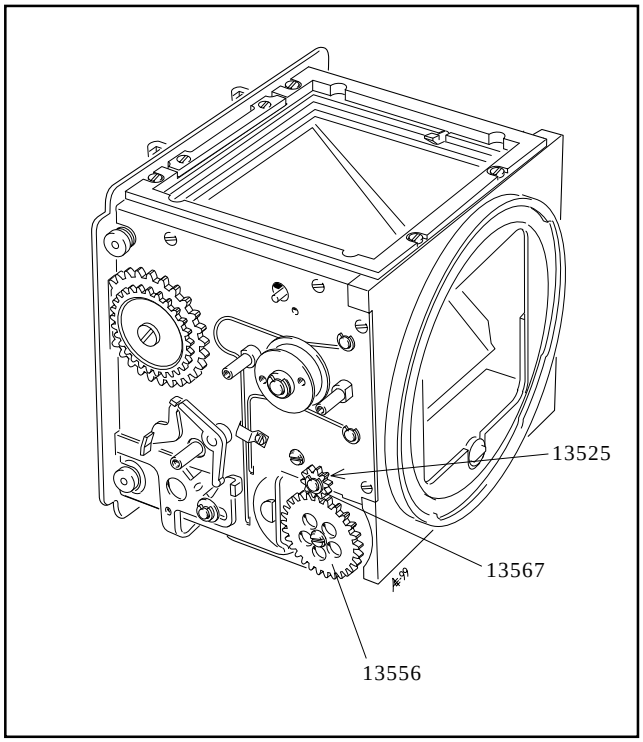


Fig. 38

Note that the gear (13556) and the dog (13525) must be retained in the positions previously described. This facilitates adjustment. Ensure that the pin on gear (13567) is placed in the hole on the dog (13525) in a 12 o'clock position.
Fig. 38.

When the gear (13556) is turned in a clockwise direction the dog (13525) should release the setting hook from the check "G".
Fig. 39.

Adjustment: Disengagement should occur when the check "D" has passed the locking arm (21219) and moved a further 1 - 2 mm. (this is a safety margin to ensure that the lens is fully cocked).
Fig. 39.

If a further movement is needed, then the relationship between the dog (13525) and the gear (13567) must be altered.

Adjustment: If smaller movement is required, lift the gear (13567) out of engagement with gear (13556). Turn gear (13567) one (1) tooth segment in an anti-clockwise direction. Re-check as specified above.

Adjustment: In the case of excessively large further movement, carry out the same operation in the reverse direction.

Tighten gear (13556) with screw (821033) and secure gear (13567) with clip (817119).

Note that the front gear (30413) must be held when the screw for gear (13556) is tightened. This can be done in a convenient way by inserting the blade of a screwdriver on the underside of the camera between the spring stop (22317) and the fixed gear on the front gear.

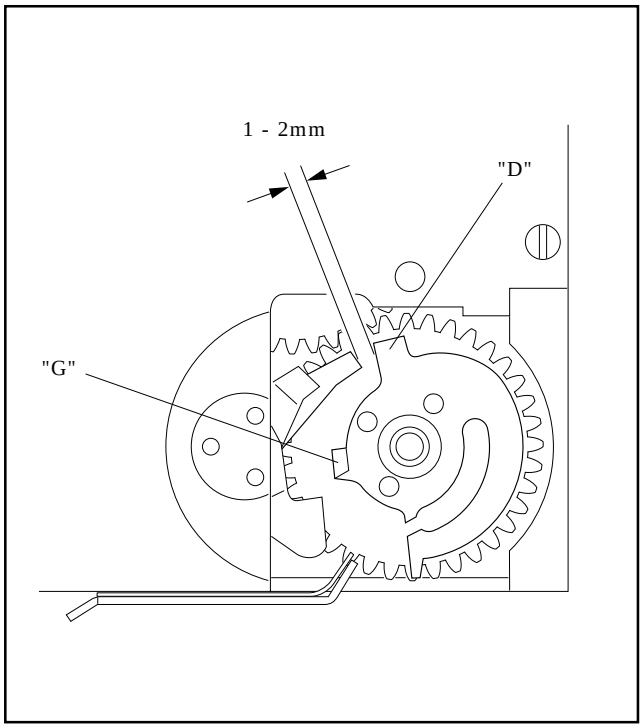


Fig. 39

Gear (13557)

The initial position for fitting gear (13557) is as follows. The dog (13525) has just operated the spring-loaded setting hook on gear (13556) and further movement has been checked as described previously.

Gear (13556) is backed in an anti-clockwise direction until the spring-loaded setting hook stops against the upper point "G" on the front cam disk.
Fig. 39.

The straight side of gear (13558) is placed parallel with the rear section of the camera. Lubricate and fit the gear wheel (13557) on its pin. The position of both the pins on the underside of the gear is shown in Fig. 40.

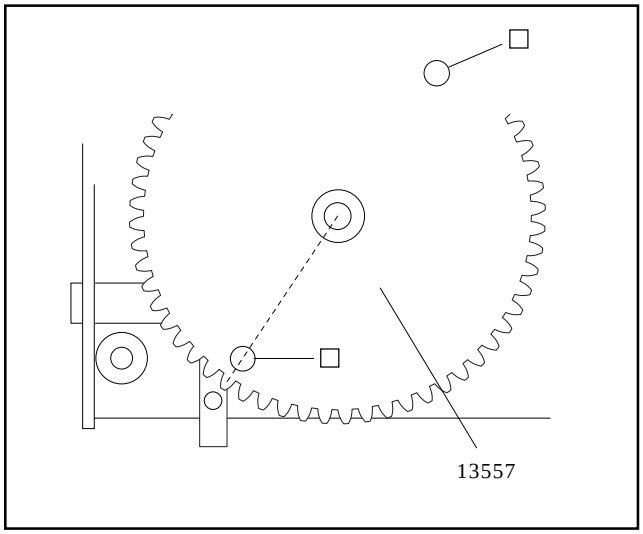


Fig. 40

Tighten gear (13557) with one screw (821033).

Control and Adjustment of Auxiliary Shutter

Operate the release catch so that the camera auxiliary shutter opens.

Check that the auxiliary shutter blinds do not influence on the light path.
Fig. 41.

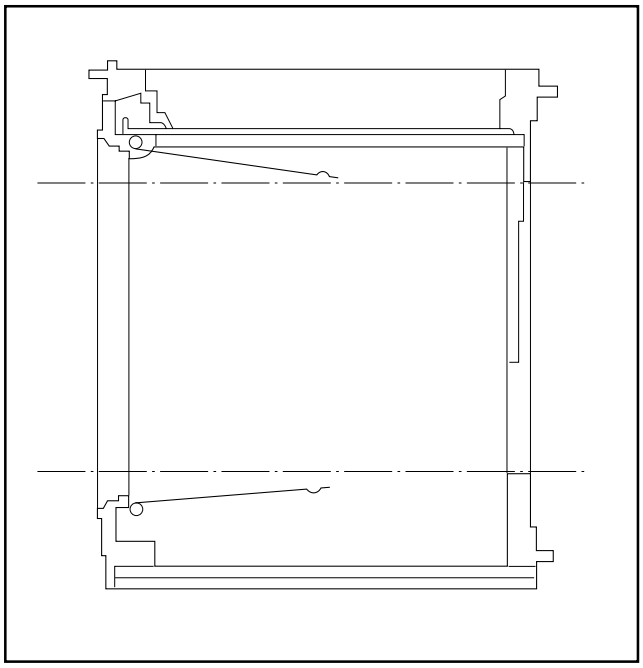


Fig. 41

Alignment of the blinds can be adjusted by holding the shaft with a pair of pliers and carefully bend in the desired direction.

Check that the shutter pivot point is not loose on the shaft. If this is the case a new shutter must be fitted. Check that on closing the top shutter is positioned 4-5 mm in front of the lower shutter blind.
Fig. 42.

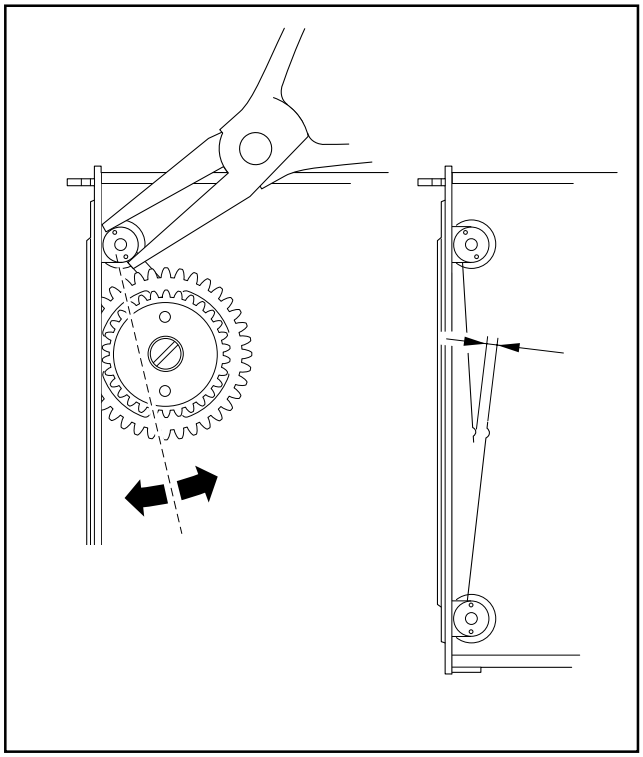


Fig. 42

Circuit board and contact flex

CAUTION! When handling the circuit board a grounded bench mat and a wrist strap must be used to prevent ESD damage.

Fit the circuit board in position. It is fixed to the wall by insulating double-sided tape (22879), and the two screws (820015).

Put the photo diode in position on the inside of the bottom part of the left hand wall and secure from the outside with two screws (820325).

Fit the cable holder (12453) securing the cables with screw (820011).

Fold the contact flex (22915) forwards and fit the attachment (22918) over the flex "A" and secure it with the two screws (820011). Fit the contact flex "B" at the bottom side of the camera. It is fixed by double-sided tape.
Fig. 43.

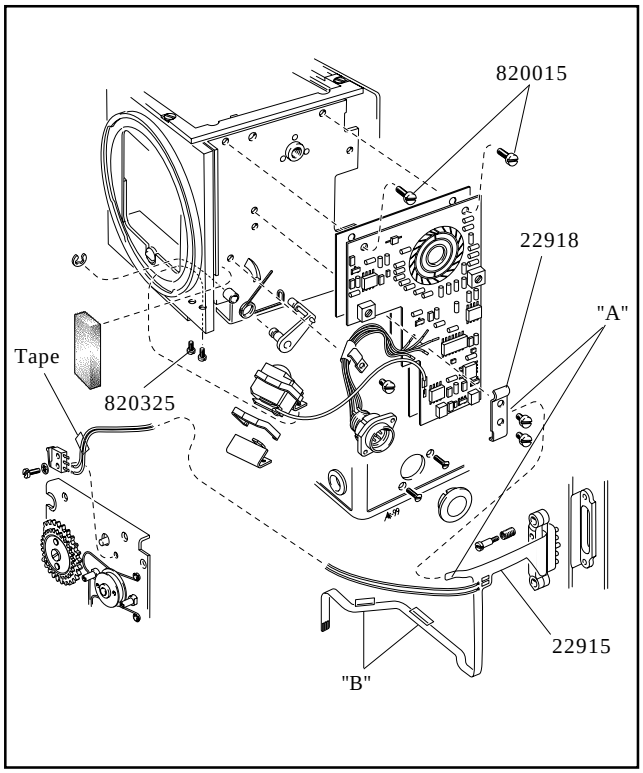


Fig. 43

Fit the cables (22931) into position and secure them with self-adhering paste at four places.
Note: The cables must not be put on the top of each other.

If the micro-switch has been unsoldered, soldering should be accomplished in less then 5 seconds. Keep the soldering tip temperature less then 320ºC (608ºF). Avoid applying force to the terminals.

Apply some loctite onto the threads of the screw (820019). Fit the micro-switch (852589) and secure with the locking washer (810407) and the screw previously mentioned.
Note: In order to prevent damage to the micro-switch the screw must not be tighten to hard.
Secure the flex (22915) with a piece of tape according to Fig. 44.

Adjustment: Release the camera and slowly rotate the gearwheel (13557) back and forth. Check that the micro-switch "clicks" on and off. When the camera is fully released there must be a small free-play (0.2 - 0.3mm) between the actuator of the micro-switch and the arm (22896).
Note: The micro-switch must not be switched on before the auxiliary shutter is fully opened.
Fig. 44.

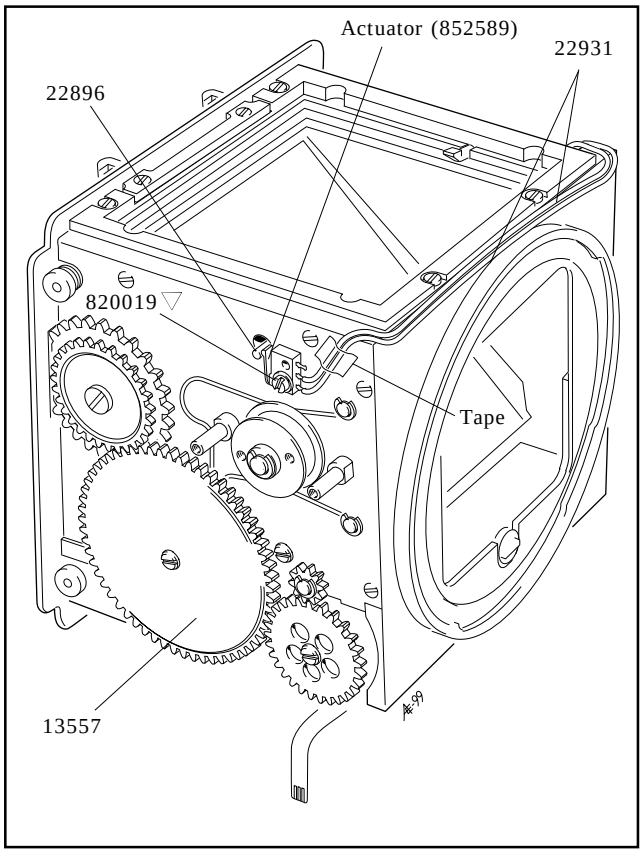


Fig. 44

Camera shell

Secure all screws (except those which are secured with loctite) with safety lacquer. Lubricate with Isoflex Topas L32 onto the pin for the teflon button (103773) and put that one in position before inserting the camera body into the camera shell.

Insert camera body into the camera shell. This operation requires manipulation to accomplish. Ensure the circuit board and the contact flex are not damaged.

Adjust the lower rear plate/shell alignment and tighten the two rear screws 823755. Fit and tighten the two front screws (823781)

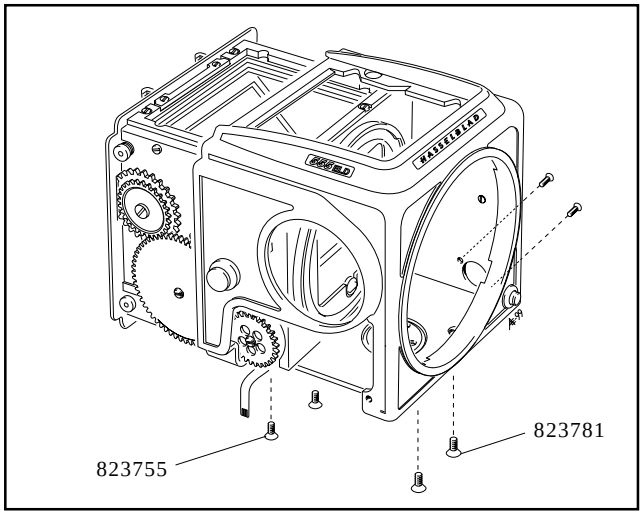


Fig. 45

Check the upper edge alignment of rear plate and shell. Adjust if necessary, the two screws (825760) which are accessible behind the leathers mounted on the shell. Secure the two screws with safety lacquer. Fig. 45.

Note! Check that the rear edge of the shell does not protrude over the rear plate at any point.

Adjustment: The V-bend in the S-wire must be as close as possible, but not pressing on the selector. Therefore, the S-wire should be bent by the necessary amount, such that when S is selected on the selector symbol plate (and mechanism is cocked), the shutters open immediately.
Fig. 46.

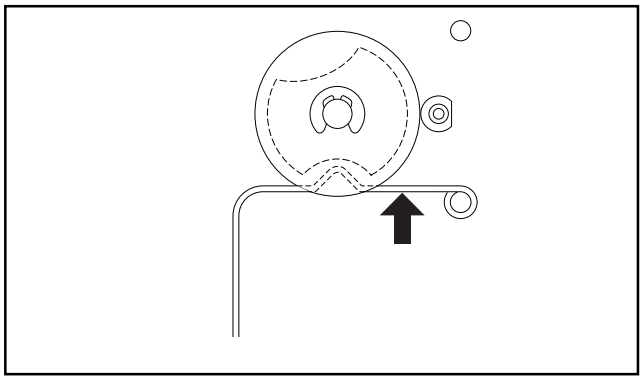


Fig. 46

Position the chassis connector and secure it with the two screws (823335) behind the leather.

Ensure that the spring (22587) and the dog (22533) are located correctly. Fit the ISO selector knob and secure it with the screw (822701). Fit the shim (22473) and leather (13374).

Refit the spring (816906) and the washer (13541). Refit the symbol plate (30682) and place the two washers (810613, 810607) in position. Secure with two screws (820014).
Refit the mode selector (30429) and secure with the two screws (823023). Mount the leather (13374).
Fig. 47.

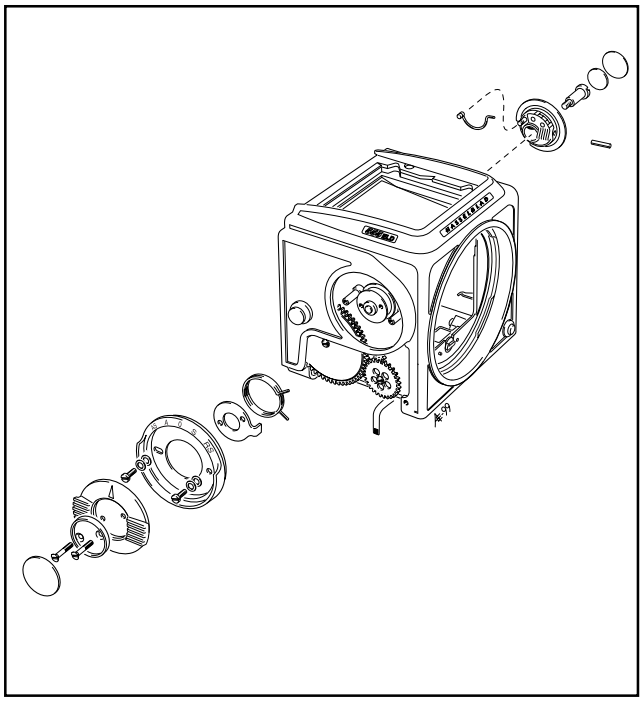


Fig. 47

Motor Housing

Insert a screwdriver through access holes at the bottom of the housing and secure it to the main camera body with four screws (823745).

Fit the rubber support (30778)

Fit the tripod foot (30763) and secure it with the six screws (829790).
Fig. 48.

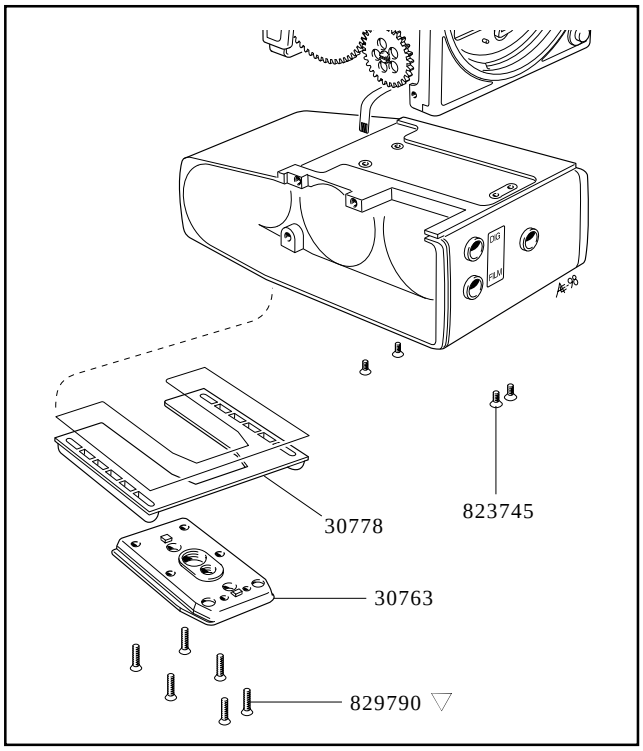


Fig. 48

Motor Unit

If, during the dismantling procedure any or all of the wiring has been unsoldered from its connections, then the wiring must be reconnected in accordance with the diagram shown in Fig. 49.

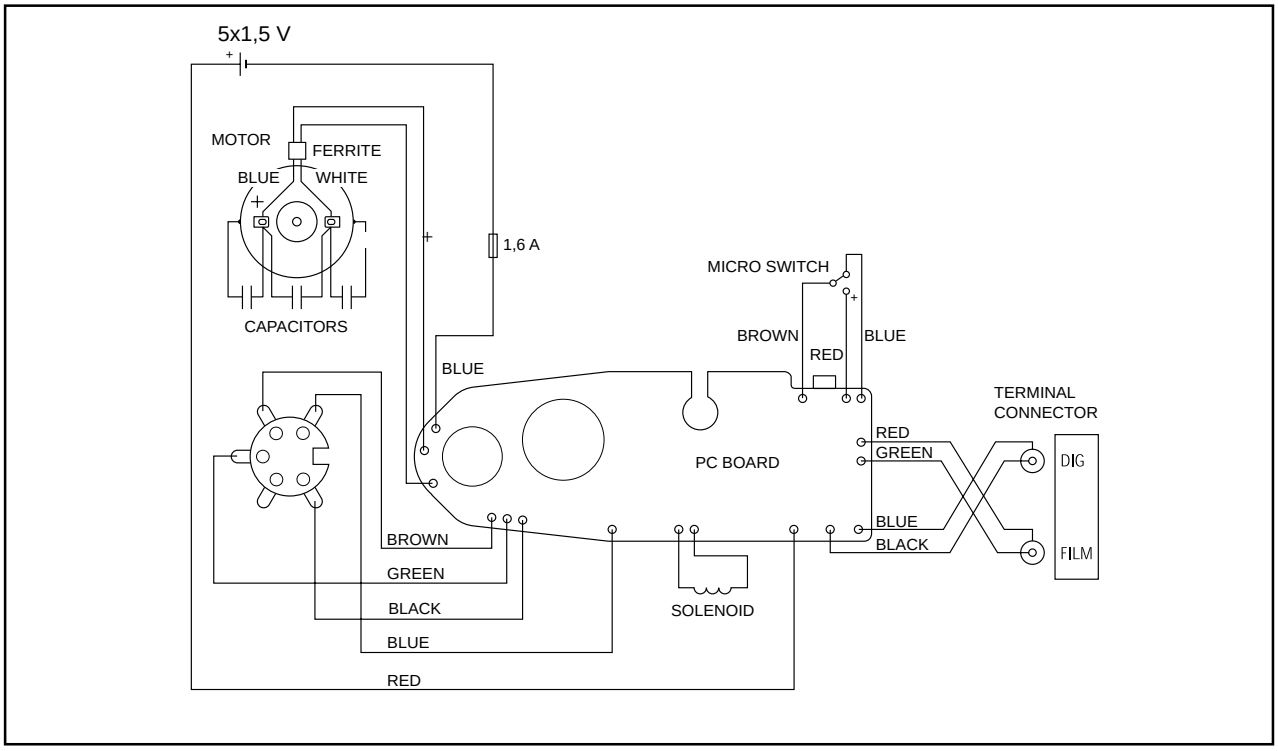


Fig. 49

Lubricate according to Fig. 50.

When the wiring has been correctly connected, re-assemble the outer mounting plate by using the following sequence:

Secure the stop arm (13571), by refitting the bearing pin (14100), the eccentric (22352), the small nut (828001) and secure by the clip (817112).

Fit the magnet arm (13561), clutch arm (14099), link (22351), spring (814601) and secure with clip (817115).

Fit the micro switch and secure with washer (810532) and screw (821033).

Assemble the gearing (13563 and 13564). Locate the gear (13565) and the complete PC board between the inner and outer mounting plates and fit the assembly together.

Fit the two long screws (820048) through the terminal connector and into the inner mounting plate. Refit the screw (820041) on the left side of the gear (13565) and the screw (820042) together with the two washers (810613) on the right side of the gear.

Fit the two long screws (823049) through the side contact (13604), then through the outer mounting plate, PC board, inner mounting plate and into the motor (22827).

Fit the three screws (824205)

Lubricate and fit the gear (13566). Note that the riveted washer on gear (13566) is to be turned inwards. Then tighten one screw (821012).
Fig. 51.

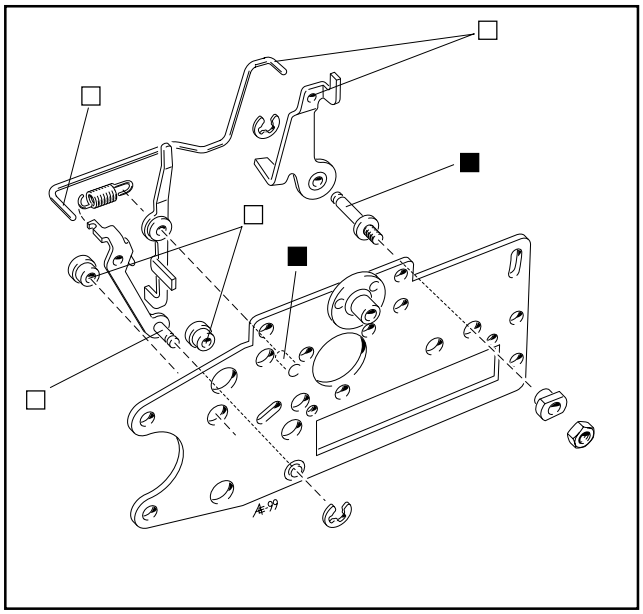


Fig. 50

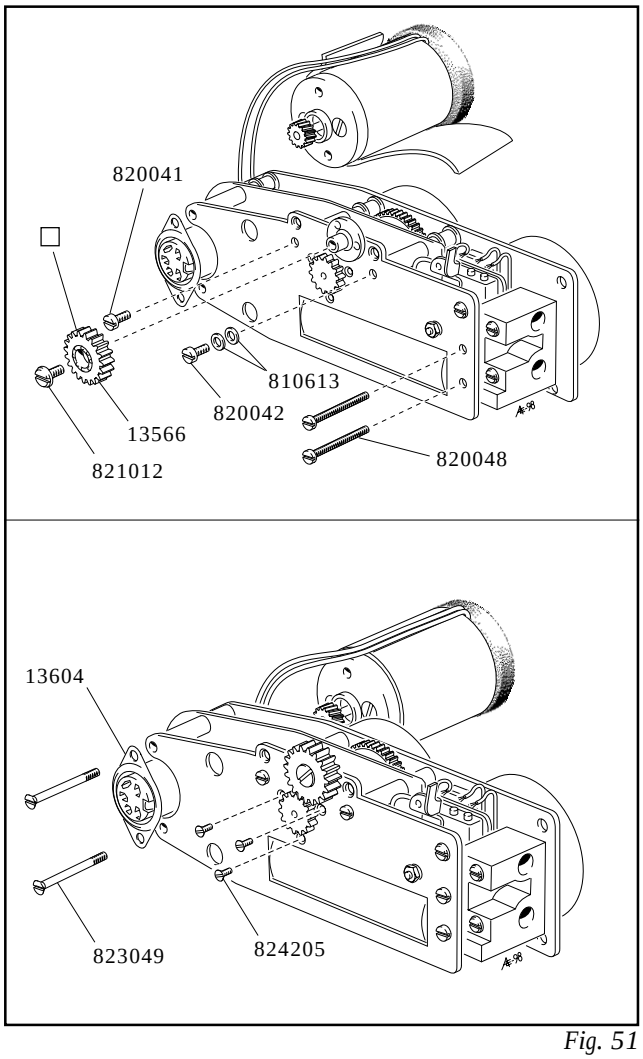


Fig. 51

Adjusting the Function of the Micro-Switch

The micro-switch (13605) is set so that the current is interrupted when the clutch arm (14099) is 1mm from the top of one of the teeth on clutch gear (13563).

Adjustment: Loosen the screw (821033) which retains the bracket (21312), move the micro-switch upwards if earlier contact breaking is desired and downwards if later contact breaking is desired. Tighten the screw (821033).
Fig. 52.

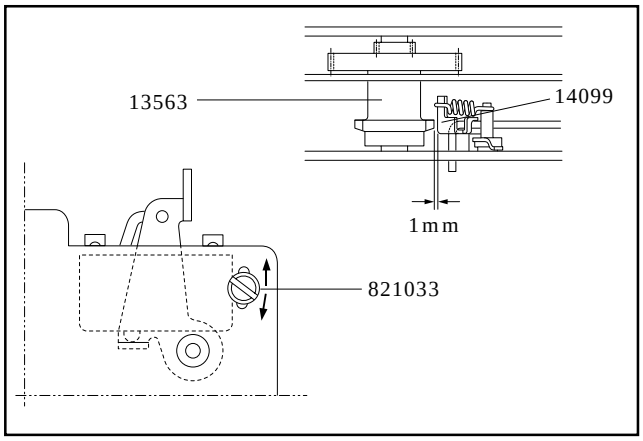


Fig. 52

Release the camera.

Insert the fuse assembly (13593, 22342, 21305, 815855) into the motor housing.

Insert the motor unit halfway, connect the contact flex to the PC board and fit the motor unit completely.

Secure with two screws (823017) and two screws (820042).
Fig. 53.

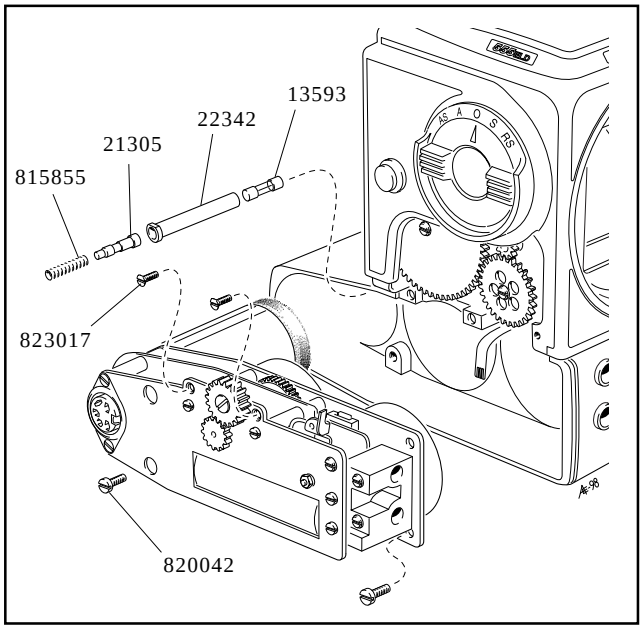


Fig. 53

Check that the release button (46120) can easily be fitted in the front holes in the motor housing.

Adjustment: Loosen slightly both the screws (820048) which hold the connection terminal (30435). Slide the release button in the respective holes and tighten the screws (820048). Check again.

Connect the camera to an electrical supply of 6 volts d.c. using the tool (903202). Note that the camera starts automatically as soon as the connection is made.
Fig. 54.

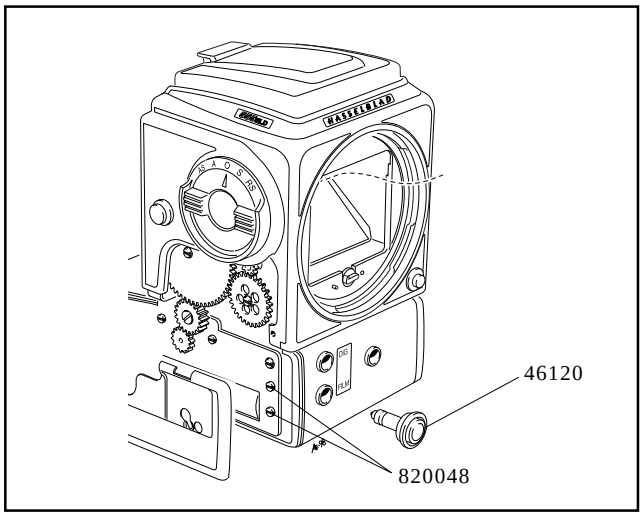


Fig. 54

Checking and Adjusting the Camera Functions

Operate the camera. If there is no exposure operation, one reason for this can be that the release lever (30793) is not releasing the cocked action between the release arm (22922) and the release catch (13570).

Adjustment: Bend the angle section on the release lever (30793) forwards at the point shown by the arrow "A" in Fig. 55. Check that the exposure action is properly carried out by holding the release lever (30793) at the same time as the release button is kept fully pressed in. Then slowly release the release lever (30793) and when exposure occurs, the excess movement of the release lever (30793) should be approximately 0,1 - 0,2mm.

After adjustment, however, the release lever (30793) must not project more than 0,8 mm outside the rear plate.
Fig. 55.

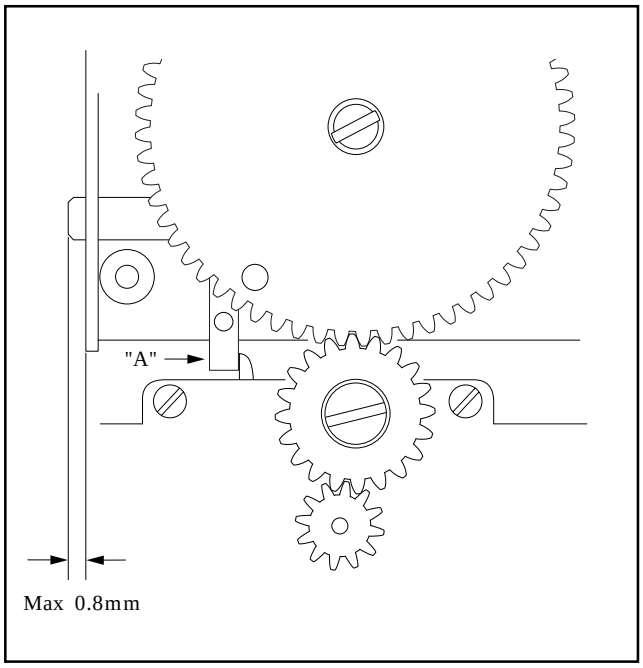


Fig. 55

Operate the camera again and check that the hook on the gear (13556) comes into contact with the stop arm (13571) when cocking is completed.

Adjustment: If the hook passes on the outside or the inside of the stop arm (13571), bend the arm in the desired direction. If the stop arm (13571) is too short or too long, loosen the nut (828001) and adjust the eccentric (22352). Do not forget to tighten the nut again after adjustment. Recheck the action.
Fig. 56.

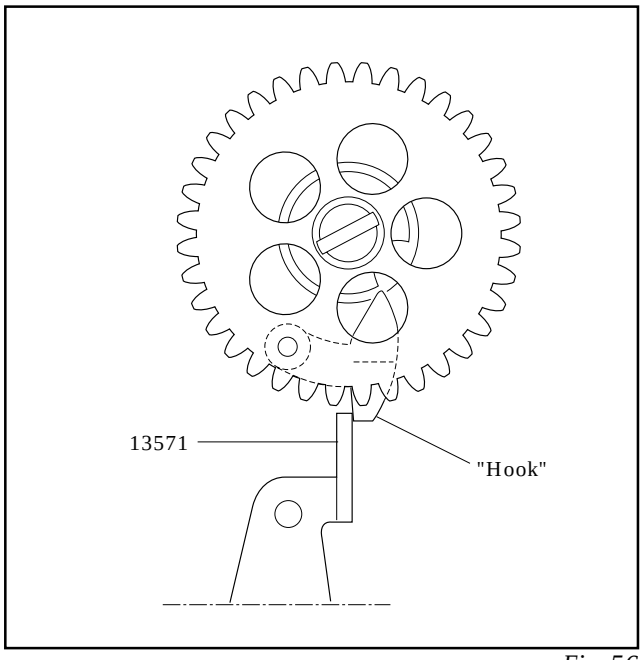


Fig. 56

Check that the flat side of gear (13558) is parallel with the rear section.

Adjustment: The source of current must be removed before adjustment is carried out.

If the position of gear (13558) is faulty in relation to rear section, this can be adjusted by modifying engagement with gear (13557). Mark up the tooth engagement between gears (13557 and 13556). Temporarily remove the screw (821033) holding the large gear (13557). Lift the gear up as far as possible for clerance. Adjust the flat side of gear (13558) parallel with the rear section. Refit the gear (13557) according to marks. Refit the screw (821033). Connect the electrical supply or the batteries and operate the camera.

If gear (13558) is located incorrectly by half a tooth or less, carry out adjustment by bending the stop arm (13571).

Bend the stop arm (13571) forwards (-) if gear (13558) projects at the bottom.

Bend the stop arm (13571) backwards (+) if gear (13558) projects at the top.
Fig. 57.

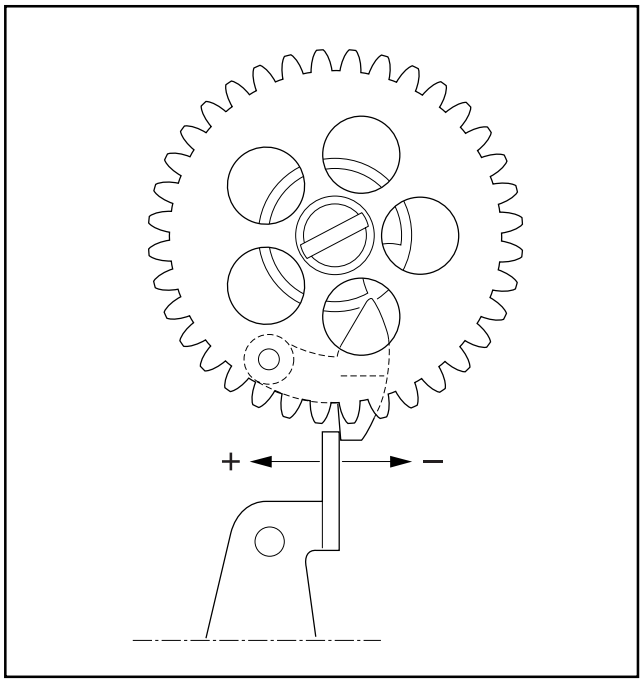


Fig. 57

Check that the selector knob (30429) operates for the correct exposure type.

0 - Normal mode

When the release button is pressed the action in the camera is as follows. The mirror swings up and the auxiliary shutter opens. When the button is released the cocking action starts the shutter closes and the mirror returns to viewing position.

S - Single pre-release

When the selector knob is moved to the S position, the mirror swings up and the shutter opens. The selector knob (30429) returns automatically to the 0 position. When the release button is pressed, the front gear carries out the last part of its working movement.

RS - Repeated pre-release

The same function occurs as in the S position except that the selector knob (30429) remains in the set position and the camera returns automatically to the S position after exposure until the selector knob is returned manually to the 0 position.

A - Automatic

The camera makes a continious sequensce of exposures as long as the release button remains depressed. The sequential exposure rate in this mode is about 1 frame/sec.

AS - Automatic sequential

The camera is pre-released in AS and exposeses sequentially as long as the release button is kept depressed. At the end of the sequence the camera remains in a pre-released state. The exposure rate is slightly faster than in A position.

Cover (21292)

Lubricate the T-arm (21283) and check that it operates freely.

Press down the cover assembly (21292) on the motor housing and make sure that both the legs on the spring (816826) are on opposite sides of the magnet arm (13561). Check that the clutch arm (22351) does not drag against the edge of the oblong slot in the cover assembly.
Fig. 58.

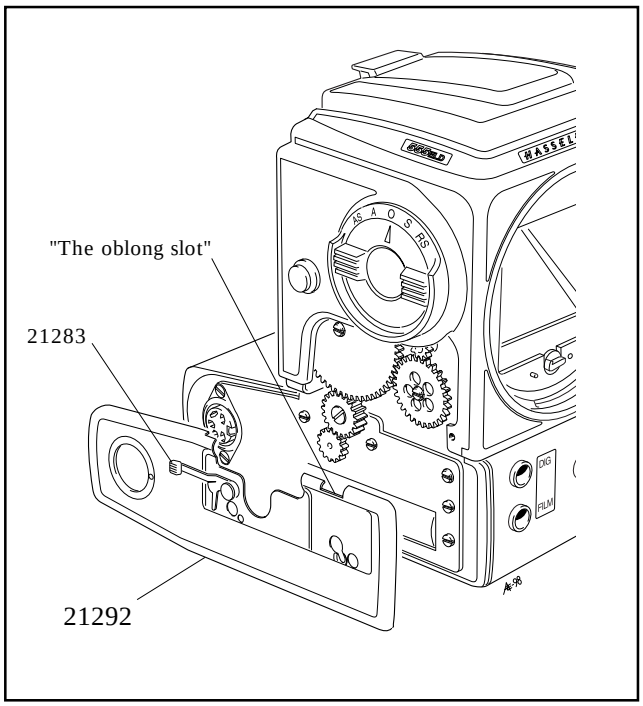


Fig. 58

Adjustment: If necessary, file the oblong slot.

Check that the camera is actuated when the T-arm (21283) is moved inwards and downwards and is in the L position. The clutch arm (14099) should then be blocked by the bent lug on the T-arm.

Adjustment: If the lug passes the end surface of the clutch arm (14099) the lug should be bent downwards but not so far that the T-arm operates sluggishly. If this adjustment does not give the desired result, the clutch arm (14099) must be adjusted. The motor unit is taken out and the double bracket on the clutch arm widened by means of a pair of pliers inserted from below. After this adjustment, check that the clutch arm (14099) runs easily between the outer mounting plate (21290) and the PC board (22913).
Fig. 59.

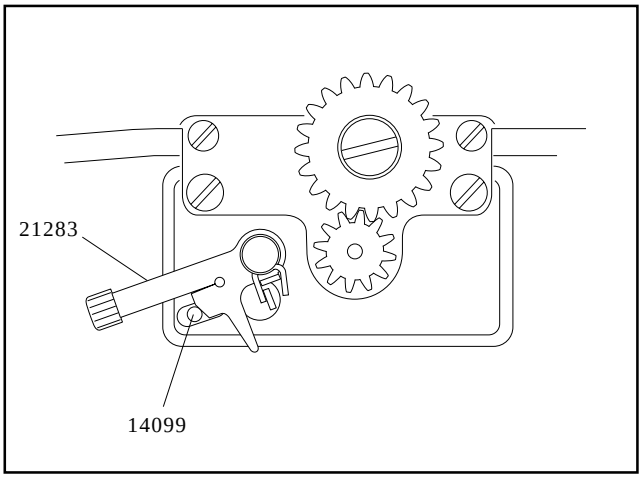


Fig. 59

Check that the magnet arm (13561) has free movement between the shanks of spring (816826) during exposure.

Adjustment: Bend the front shank of spring (816826) forwards. Check the spring (816826) blocks the magnet arm (13561) when the T-arm (21283) is in the L position.
Fig. 60.

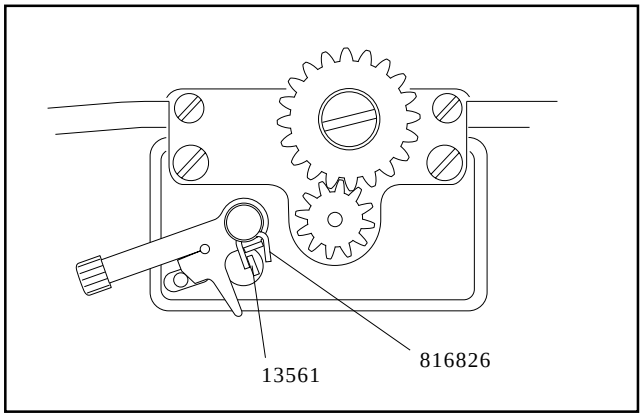


Fig. 60

Refit the side cover (30424-1 chrome or 30631-1 black) and the right hand plastic grip (40202) and secure them with the two screws (820019) and one screw (823017). Recover the screw (823017) with the leather.

Fit the blanking plug (43175) into the side contact.

Fit the batteries and the battery cover (30737 chrome or 30742 black). Do not lock the cover.
Push the release button and disconnect the battery cover at the exact moment when the auxiliary shutter is closed and the mirror is in the upper position.
Fig. 61.

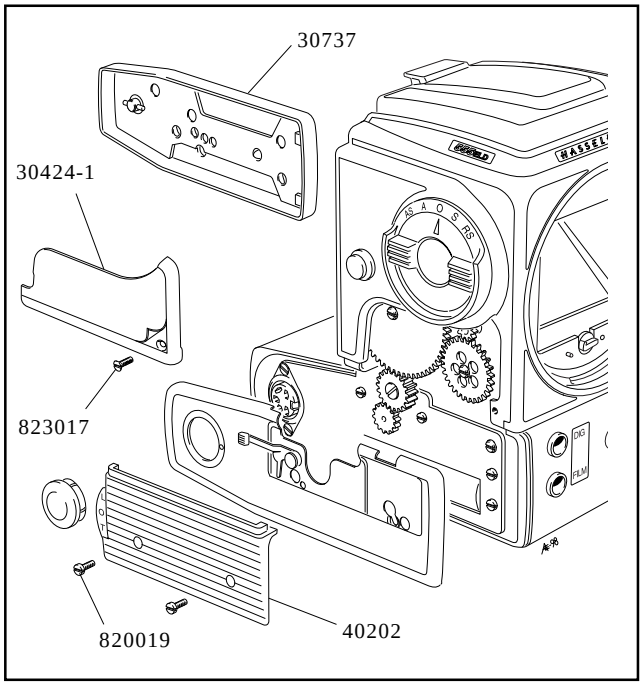


Fig. 61

Refit the cover (22928) and secure it with screw (821031).

Refit the cover (22709) and secure it with screw (821033)

Refit the battery cover and ensure the camera is fully cocked.
Fig. 62.

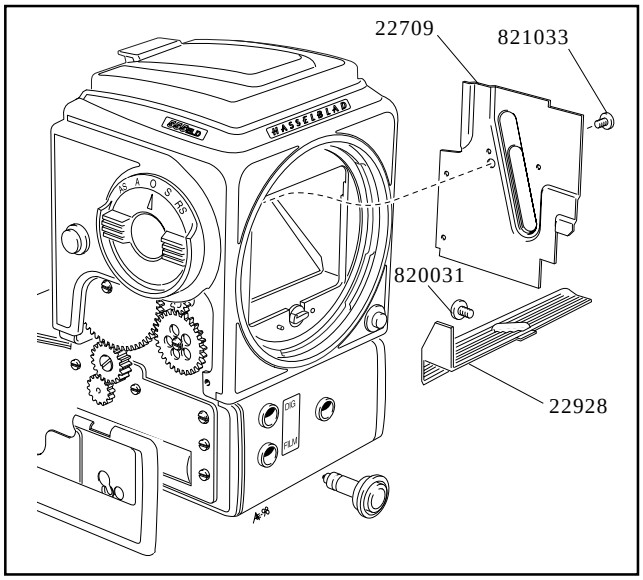


Fig. 62

Checking the databus connections

Check the integral control connector to ensure automatic and direct communication between camera body and digital back. Proceed using the following sequence:

Short-circuit the two pins "B" and "C". The camera must now release.

Pre-release the camera (the micro-switch 852859 is switched on). Connect a digital multimeter to the two pins "C" and "D". Meusure the electric resistance (maximum 5 ohms).

Put the release button (46120) into the release socket marked "DIG".
Short-circuit the two pins "A" and "B". Operate the camera by pressing the release button (46120). The camera must now release.
Fig. 63.

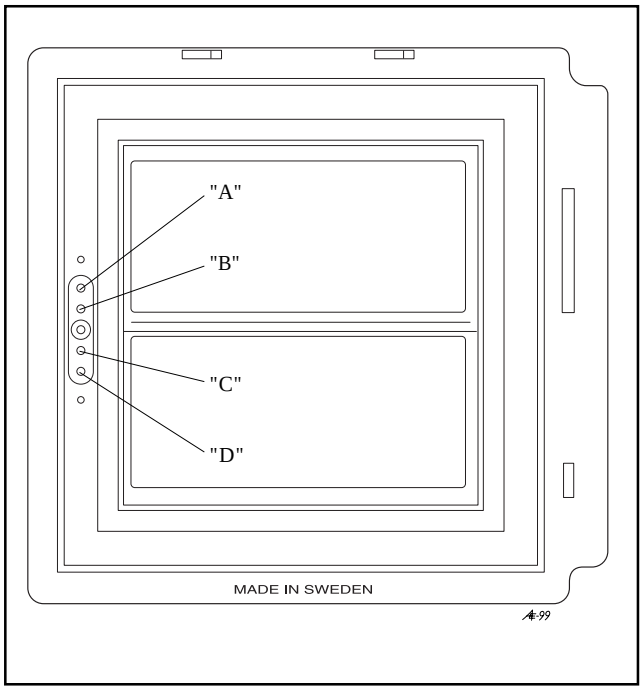


Fig. 63

Final checks

Place the camera in the focusing gauge V-2229.
Zero the dial indicator by placing it on surface ”B”.
Mount the front plate ”A” into the front bayonet of the camera. Place the ruler with indicator clock onto the gauge and move the indicator around the periphery of the front plate and check that the length is within the tolerance ± 0.03 mm. If to long, the camera can be shortened by carefully striking the plate with a plastic hammer. (Focal length is 71.40 mm).
Fig. 64.

Note! If the camera is to short it must be taken out from the shell again for an adjustment.

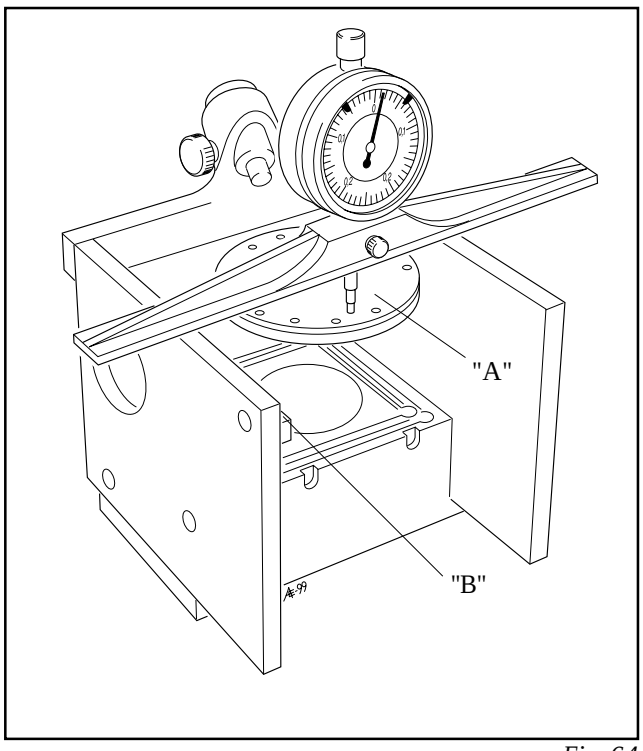


Fig. 64

Check the mirror 45° angle using the sighting tube which fits in the holder on the gauge. Tighten the locking screw. Shine a light source towards the oval cut-out in the upper part of the tube so that the white ring of the ocular is illuminated. When the mirror is at 45° the pattern in the sighting tube will appear as shown. Check that the inner white circle is symmetrical and does not lie outside the inner black field.

The mirror level is adjusted by the screws located in the two mirror rests (22445 and 22446) behind the front bayonet plate.
Fig. 65.

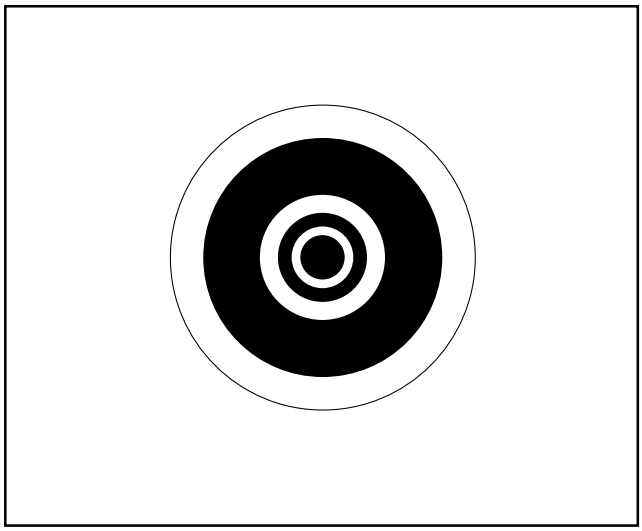


Fig. 65

After adjustment is completed remove the sighting tube.

To adjust the screen position there are four special screws (22478) in the screen frame. Use allen key (1.5mm) for the adjustment. Each rotation of the screw alters the height by 0.35 mm.

First check the flatness of the screen. Use the screen adapter V-4705 and the ruler with the indicator clock. The same measurement should be obtained at all four corners.
Fig. 66.

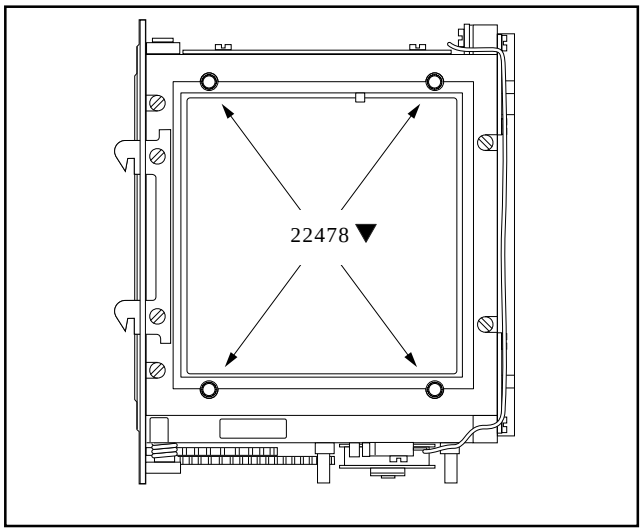


Fig. 66

Then fit tool V-4151 into the camera's front bayonet plate. The tool should be powered by 6 volt DC.

Position the microscope V-2236 on the screen adapter V-4705. Adjust (all four screws) the screen height with the allen key until the red line is central between the two green lines.
Fig. 67.

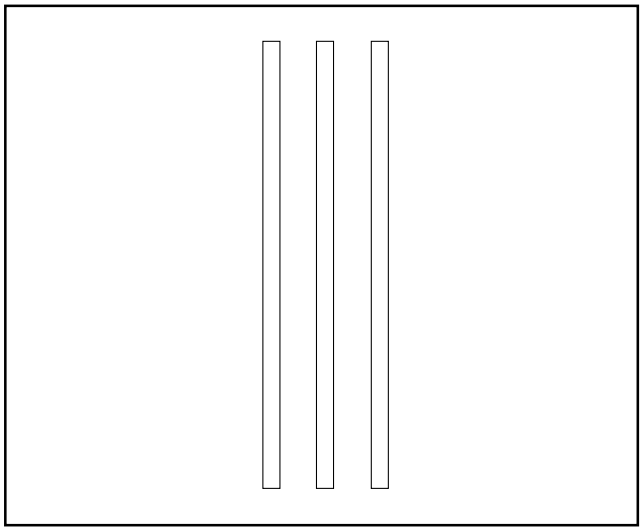


Fig. 67

Remove the camera body from V-2229 and secure the screws (22478) with safety lacquer.

Check the camera functions. Check that the auxiliary shutter is clear of the internal covers. Check that a magazine can be fitted on the camera and that the locking functions work properly. If the lock does not function the magazine hook can be adjusted by filing. Ensure when filing that tests are made often and finally that the magazine fits snugly otherwise it will result in play between the camera body and the magazine.

Mount the screen and the focusing hood. Test run the camera with a loaded magazine and a lens fitted.

Check the flash metering system.

Calibration and control of the flash metering system TTL

Control/calibration should be carried out each time the camera has been in for repair.
The tolerance for the flash meter is ±0.3 EV at all settings.

If the Hasselblad Service System 970600 is used, follow the step by step instruction in the STS user manual.
Note! For calibration work use ISO 400/LV12.

If the Test box 902474 is used follow the instruction below.

Calibration requires the following test equipment:

- Planar CF80 mm lens with controlled diaphragm values.
  Deviation max. ±10%.
- Magazine fitted with Kodak´s grey card.
- Stabilized DC power supply adjustable to 7.5 volt ± 0.1 volt.
- Calibrated light box with LV12 and 15.
- Test box 902474.
- Non-conductive trimmer, 2 - 2,5mm.

Set-up for calibration:

Lens	Shutter Aperture	B or F f 5.6
Camera body	ISO	400
Magazine	Fitted with grey card	
Test box 902474	Exposure knob Tolerance knob	+1 Trim
Power supply	Voltage	7.5 ± 0.1v
Light box	LV K-factor	12 1.3

Calibration

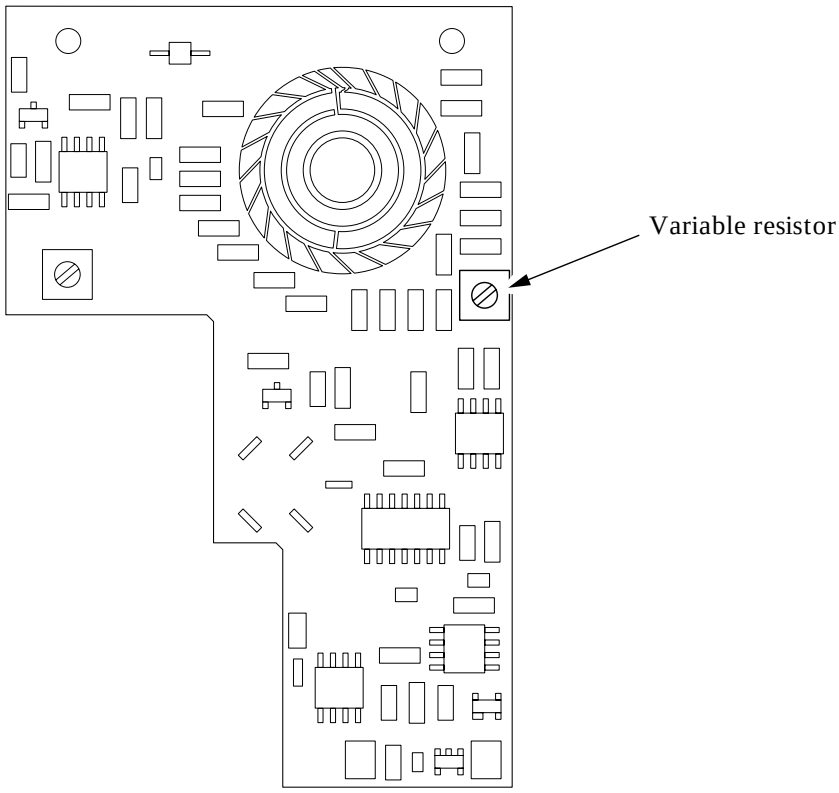
On pressing the MEASURE button one of the three LED´s will light. The variable resistor in the camera (access behind the leather beside the ISO dial) should be turned so that the green LED lights when the MEASURE button is pressed again.

If the red LED lights, the resistor is turned anticlockwise and if the yellow LED lights, it is turned clockwise. At least two seconds must be allowed between measurements.

Control

To ensure the ISO dial functions, the measurement should also be made for two other ISO settings (100 and 1600). In each case the green LED should light when the MEASURE button is pressed.

ISO	Exposure knob	Tolerance knob	LV
100	0	1/2	15
1600	- 1	1/2	12



Front plate reassembly

Fit the four bayonet tongues (103439) and secure with eight screws (820425). Behind the front plate glue the two foam plastic strips (13212) and (22899) as well as the reflection protector (22527) into place.

Place the lens catch (103440) in position and fit the cover plate (105107). Secure with screw (823440). Install the spacer (810409) and the spring (816858). Secure the second screw (823440). Check the lens catch lever for ease of operation.

Fit the right and left mirror rest (22445 and 22446) and secure with the screws (823015 and 823017). Fit one adjusting screw (820020) in each mirror rest. Fig. 68.

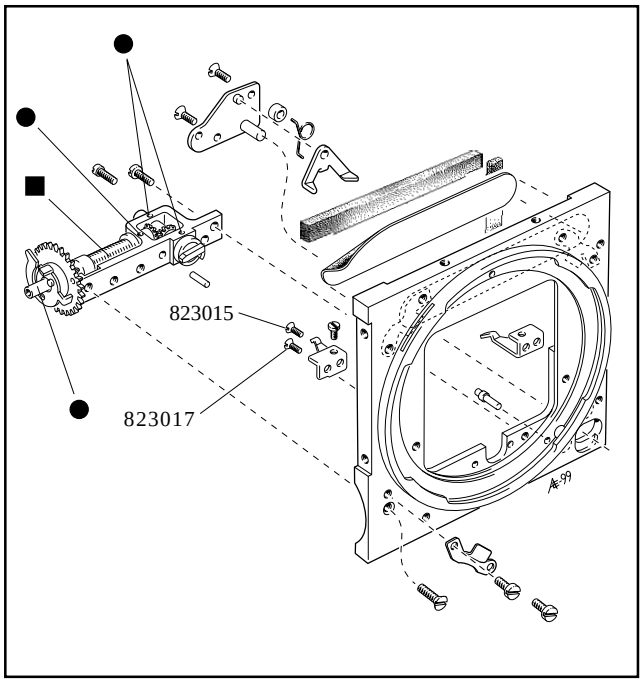


Fig. 68

Front gear (30413)

Check the front gear ease of operation. The long shaft from the drive gear wheel to the bevel gear wheel sometimes has too little play which can give rise to tightness. A light blow with a plastic faced hammer on the cog wheel end of the shaft will generally overcome the problem.

Fit the front gear on the front bayonet plate using one screw (823019) in the front and one (820018) from the rear. Check the freedom of operation. Do not tighten the screws to much.

Centring the front gear key.

Mount the tool 902658 (V-2075) into the lens bayonet plate and connect tool 902918 (V-2219). Turn the key using 902918 to a vertical position. Check that the free play is even in both directions. If there is more resistance at one direction than the other move the front gear to obtain a balance. Carry out the same procedure with the key in a horizontal position. Also check at the 180° points in both vertical and horizontal position.
Fig. 69.

When the key is centralised tighten both screws in the front gear and secure with safety lacquer.

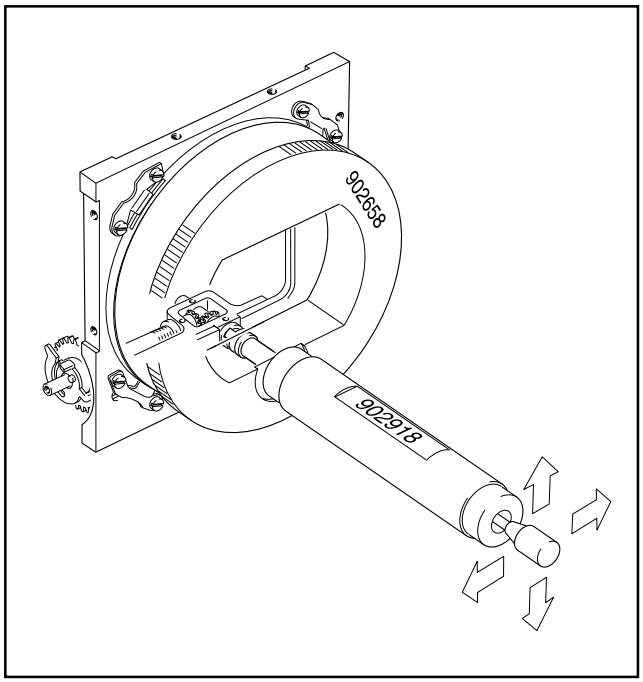


Fig. 69

The hole for the locating pin (812202) is bored with 1.15 mm drill. Use tool V-2211 for driving in the pin. Drive the pin in until the face of the tool touches the front bayonet plate.
Fig. 70.

When a new front plate is installed the hole must be drilled using tool 902658 (V-2075), which is equipped with two drill bushes.

Remove the swarf and lubricate the bevel gears with grease. Force grease using a syringe into the three small holes. Note! Do not over lubricate.
Fig. 68.

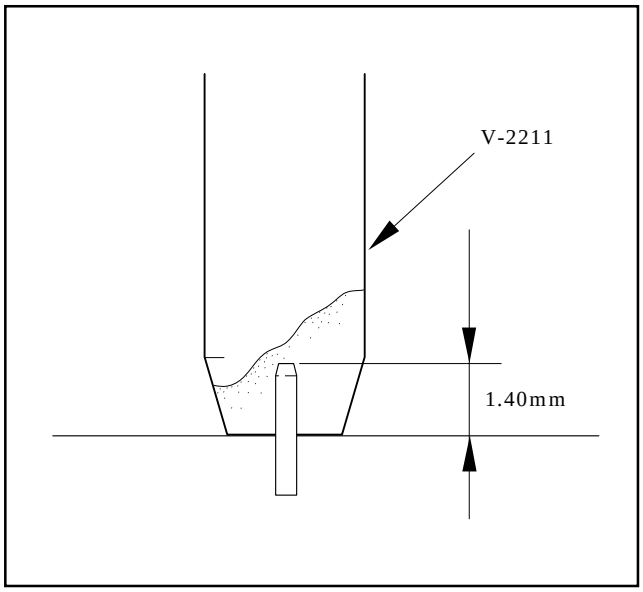


Fig. 70

Exchanging the auxiliary shutter

Note! For convenience use the aux. shutter jig V-5423 when removing/mounting the pins (811108).

Remove the pin (811108), spring retainer, spring (816807) and the upper actuating arm (13580).

Remove the safety lacquer and loosen the locking screws (825661). Remove the two hubs (840514).

The upper shutter flap can now be removed. Ensure that all adjustment washers on the shaft are retained. The lower shutter flap is dismantled in a similar manner. The light trap (13125) is held in place by two screws (821203).

Remount the upper shutter flap by aligning it to the bearing holes. Push in both bearing hubs and centralise the shutter flap side movement by using the shim washer (810505).

Tighten up both screws (825661) and secure with safety lacquer.

Fit a washer (810505) on each side of the lower shutter flap shaft and mount in the same way as the upper one.

Check that the shutter flaps move freely and that they are central to the rear plate inner frame.
Fig. 71.

Assemble the upper actuating arm, spring and spring retainer. Locate the spring so the three items are together.
Fig. 72.

Connect the three items to the shutter shaft and secure it with pin (811108).

The lower shutter is completed in the same manner but note that a weaker spring is used, (816806).

Check that the upper shutter spring pressure is approximately twice as strong as the lower shutter.

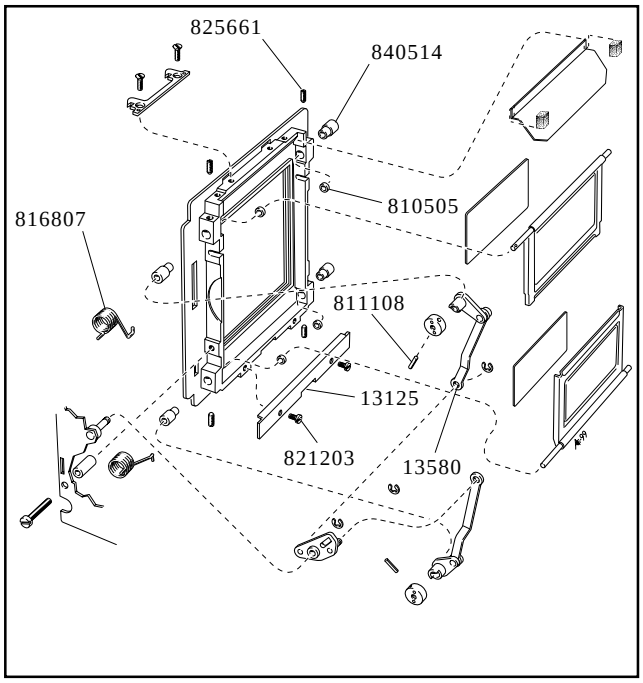


Fig. 71

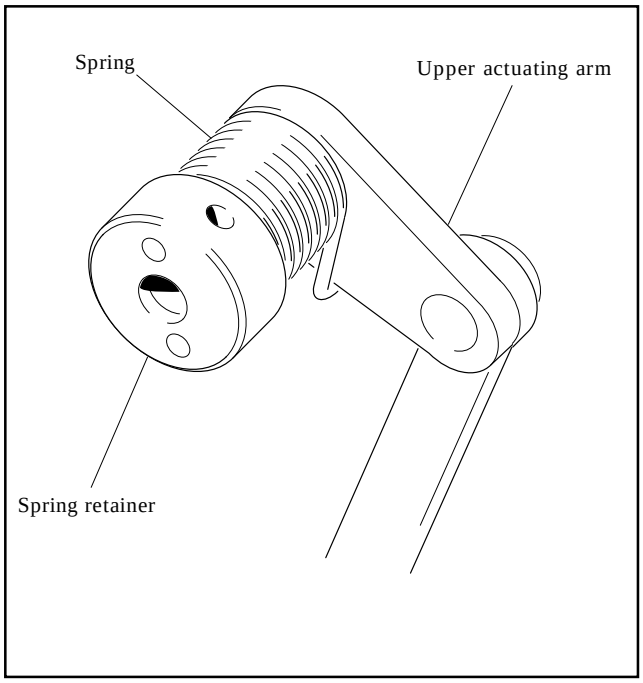
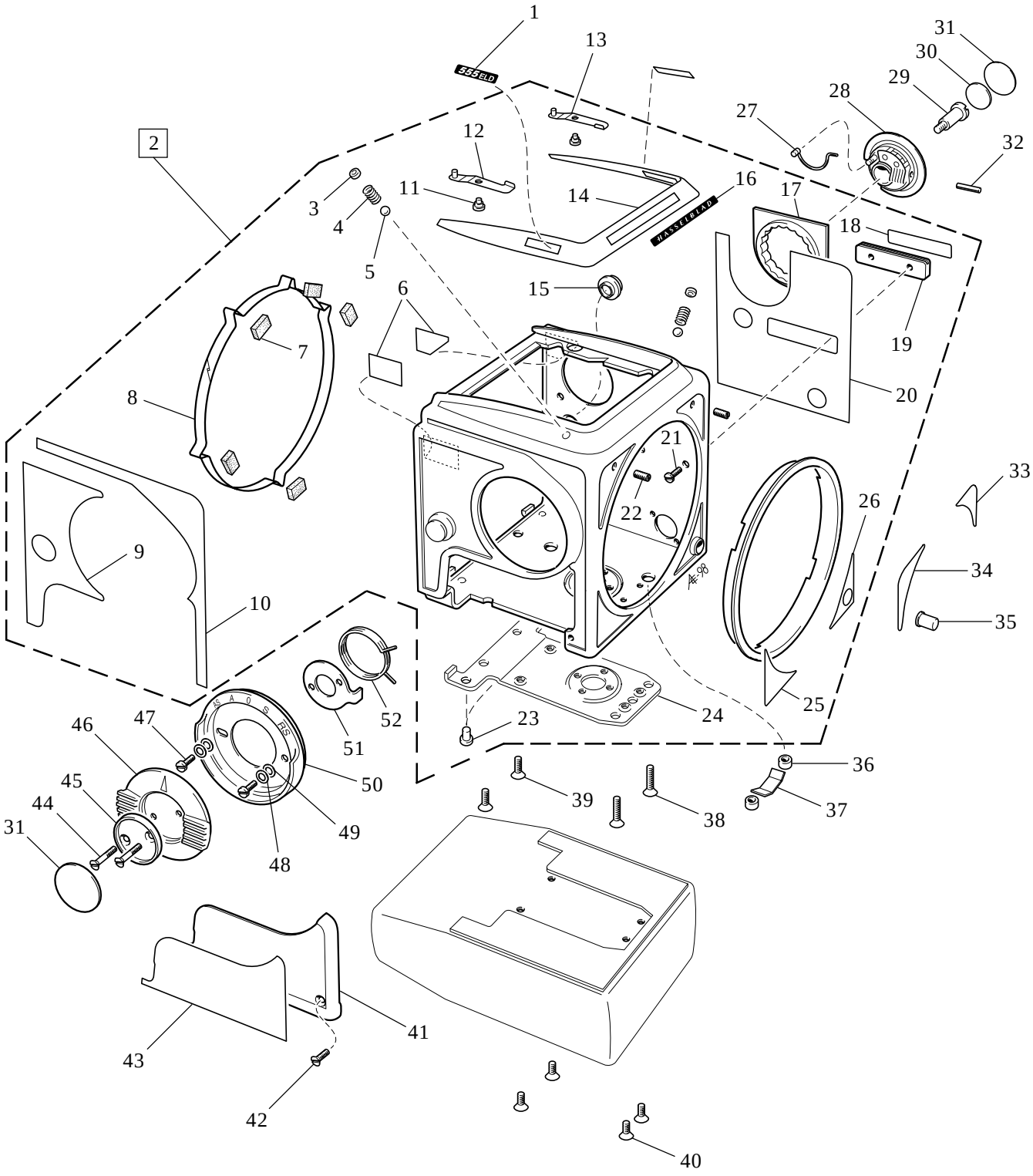


Fig. 72

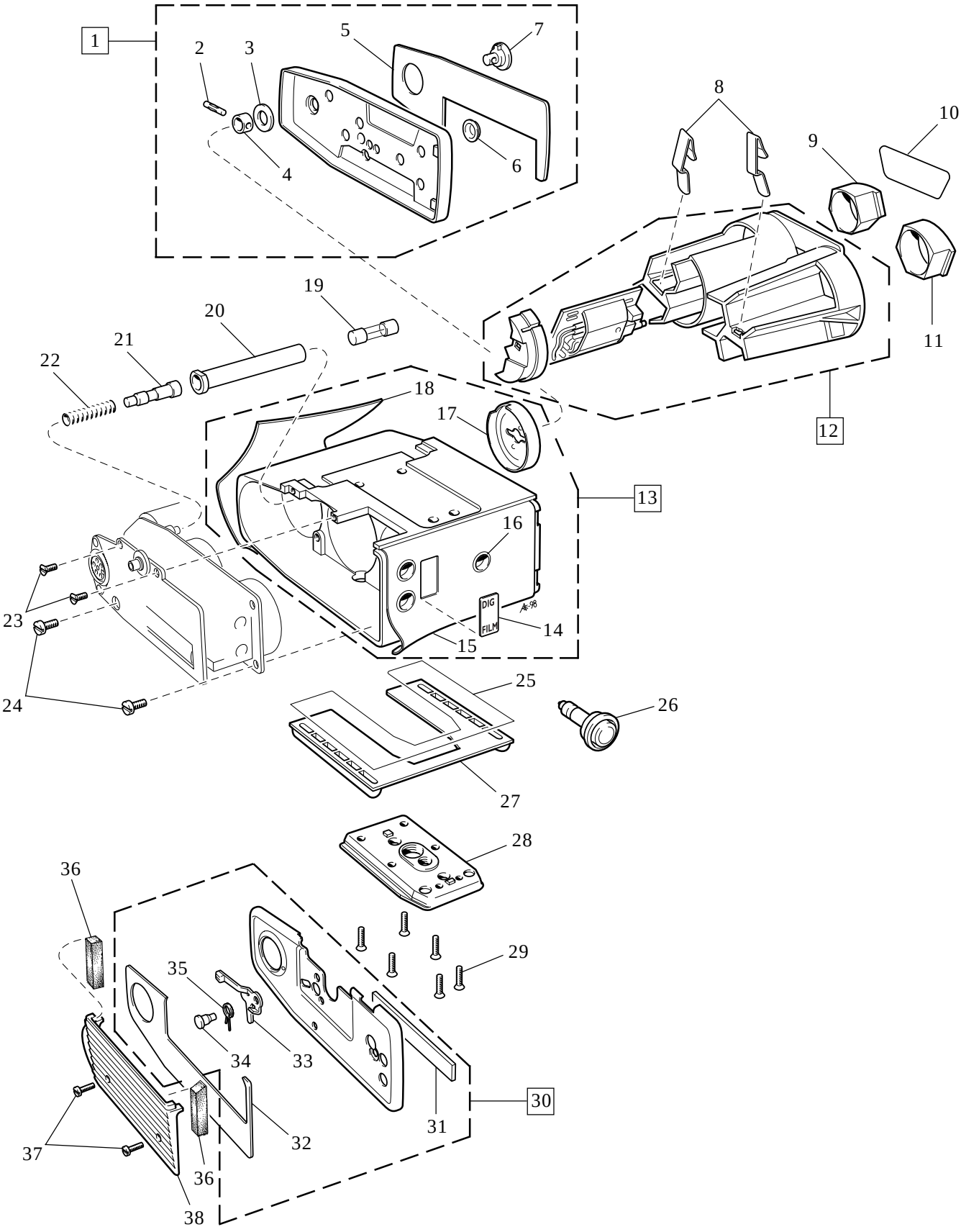
Camera body 555ELD



Camera body 555ELD

Pos No.	Pcs	Spare Part No.	Description	Remark
1	2	22 894	Name plate	
2	1	40 364	Shell, complete (chrome)	Part No. 40 365 (black)
3	2	12 978	Plate	
4	2	815 604	Spring	
5	2	809 120	Steel ball	
6	2	22 514	Reflection protector	
7	5	13 315	Foam plastic pad	
8	1	22 515	Locking ring	
9	1	105 509	Leather	
10	1	103 596	Leather	
11	2	835 001	Rivet	
12	1	13 906	Holder, right	
13	1	13 907	Holder, left	
14	1	105 926	Leather	
15	2	13 466	Strap button	
16	1	13 190-1	Name plate	
17	1	40 417	ISO plate	
18	1	22 607	Leather	
19	1	22 472	Accessory rail	
20	1	22 455	Leather	
21	2	821 661	Screw	
22	2	825 760	Screw	
23	2	831 502	Rivet	
24	1	103 327	Magazine support	
25	1	103 594	Leather	
26	1	103 510	Leather	
27	1	22 587	Spring	
28	1	22 495	ISO Selector	
29	1	822 701	Screw	
30	1	22 473	Shim	
31	2	13 374	Leather	
32	1	22 533	Dog	
33	1	103 508	Leather	
34	1	103 507	Leather	
35	1	13 139	Lens release button	
36	2	810 620	Spacer	
37	1	103 424	Spring	
38	2	823 781	Screw	
39	2	823 755	Screw	
40	4	823 745	Screw	
41	1	30 424-1	Cover (chrome)	Part No. 30 631-1 (black)
42	1	823 017	Screw	
43	1	13 608-1	Leather	
44	2	823 023	Screw	
45	1	13 596	Plate	
46	1	30 429	Selector knob	
47	2	820 014	Screw	
48	2	810 613	Washer	
49	2	810 607	Washer	
50	1	30 682	Symbol plate	
51	1	13 541	Washer	
52	1	816 906	Spring	

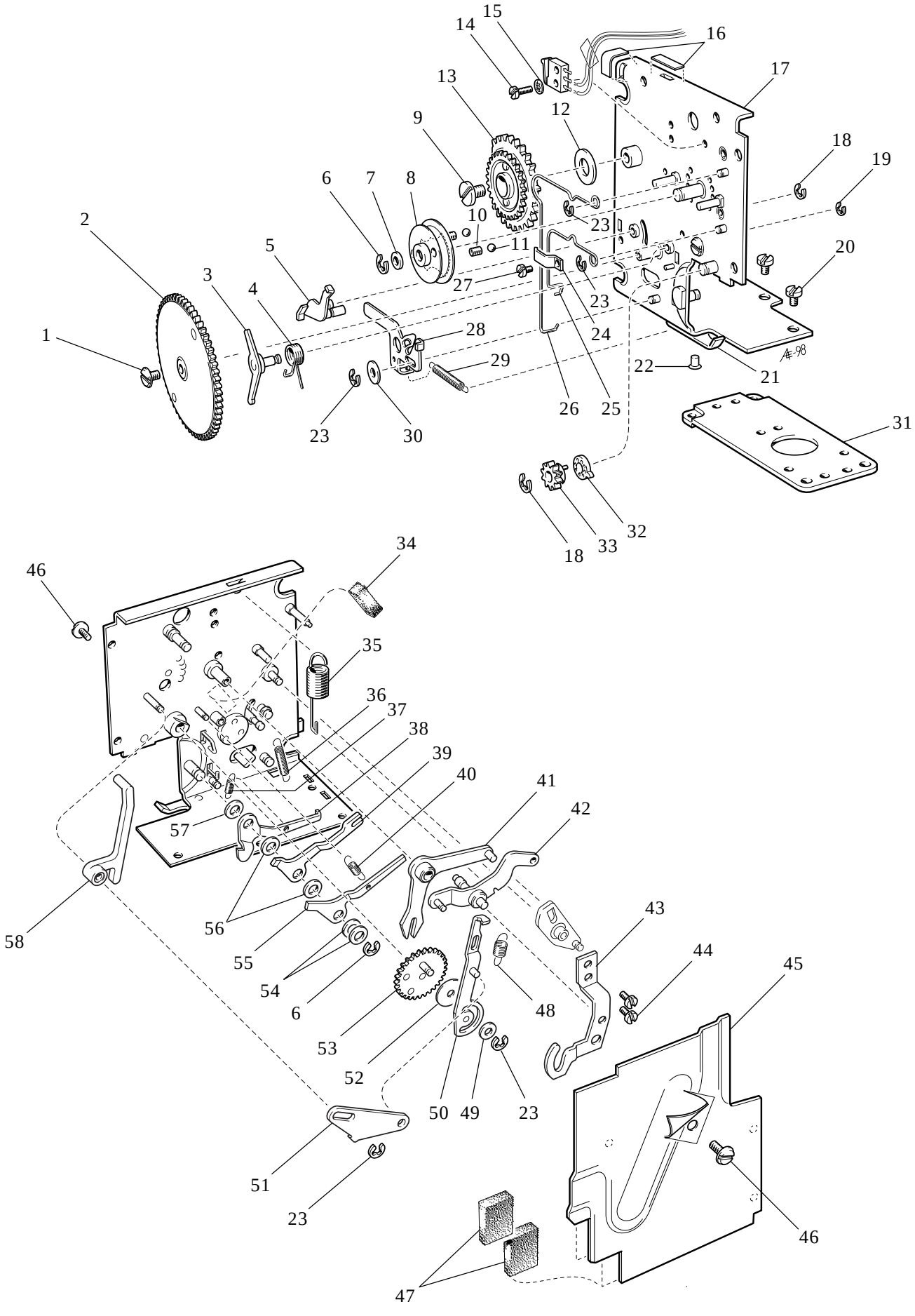
Camera body 555ELD



Camera body 555ELD

Pos No.	Pcs	Spare Part No.	Description	Remark
1	1	30 737	Battery cover, compl. (chrome)	Part No. 30 742 (black)
2	1	812 505	Pin	
3	1	810 864	Washer	
4	1	13 550	Spacer	
5	1	21 317	Leather	
6	1	30 739	Rubber cap	
7	1	21 304	Turn button	
8	2	30 745	Contact spring	
9	1	41 001	Insert, right	
10	1	22 682	Sign + -	
11	1	41 000	Insert, left	
12	1	50 178	Battery compartment	
13	1	30 801	Motor housing	Complete
14	1	22 898	Sign Dig/Film	
15	1	22 912	Leather	
16	3	13 529	Nylon bushing	
17	1	13 585	Cap	
18	1	22 845	Leather	
19	1	13 593	Fuse	
20	1	22 342	Insulating tube	
21	1	21 305	Fuse holder	
22	1	815 855	Spring	
23	2	823 017	Screw	
24	2	820 042	Screw	
25	1	22 846	Tape	
26	1	-	Release button	Sales code No. 46120
27	1	30 778	Rubber support	
28	1	30 763	Tripod foot	
29	6	829 790	Screw	
30	1	21 292	Cover, complete (chrome)	Part No. 22 117 (black)
31	1	13 545	Shim	
32	1	21 317	Leather	
33	1	21 283	T-arm	
34	1	835 330	Pin	
35	1	816 826	Spring	
36	2	22 530	Light seal	
37	2	820 019	Screw	
38	1	40 202	Plastic grip, right	

Camera body 555ELD

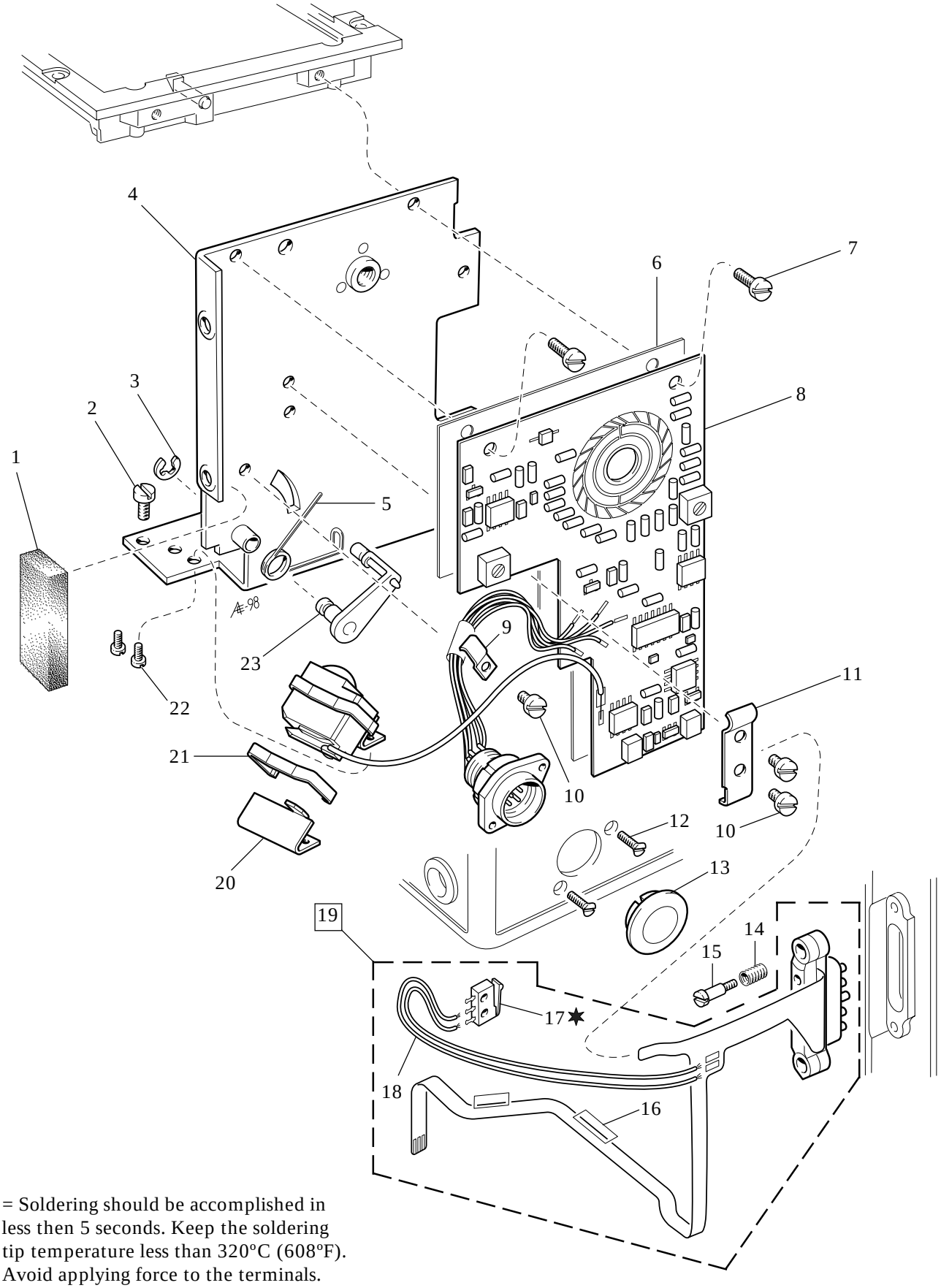


Camera body 555ELD

Pos No.	Pcs	Spare Part No.	Description	Remark
1	1	821 033	Screw	
2	2	13 557	Gear	
3	1	13 570	Release catch	
4	1	816 608	Spring	
5	1	22 922	Release arm	
6	2	817 123	Clip	
7	1	810 702	Washer	Alternatively 810 703/705
8	1	13 559	Selector	
9	1	821 012	Screw	
10	2	815 604	Spring	
11	2	809 020	Steel ball	
12	1	810 854	Washer	
13	1	13 558	Gear	
14	1	820 019	Screw	
15	1	810 407	Washer	
16	2	22 943	Light seal "palpas"	
17	1	30 748	Inner wall, right	
18	2	817 119	Clip	
19	1	817 112	Clip	
20	3	820 014	Screw	
21	1	22 317	Stop	
22	2	832 315	Rivet	
23	5	817 115	Clip	
24	1	12 453	Holder	
25	1	21 223	S-wire	
26	1	21 224	A-wire	
27	1	820 011	Screw	
28	1	30 793	Release lever	
29	1	814 309	Spring	
30	1	810 560	Teflon washer	
31	1	30 686	Bottom plate	
32	1	13 525	Dog	
33	1	13 567	Gear	
34	1	-	Foam plastic pad	
35	1	814 862	Spring	
36	1	814 706	Spring	
37	1	814 302	Spring	
38	1	21 221	B-arm	
39	1	22 923	S-arm	
40	1	814 509	Spring	
41	1	13 554	Auxiliary shutter arm	
42	1	22 460	Mirror lever	
43	1	30 701	Support	
44	2	820 013	Screw	
45	1	22 709	Inner cover	Complete
46	2	821 033	Screw	
47	2	22 528	Foam plastic pad	
48	1	814 861	Spring	
49	1	810 532	Washer	
50	1	22 458	Mirror actuating arm	
51	1	22 714	Plate	
52	1	810 761	Washer	
53	1	22 476	Gear	

Pos No.	Pcs	Spare Part No.	Description	Remark
54	2	810 705	Washer (0,20 mm)	Alternatively 810 702/703 (0,05/0,10 mm)
55	1	21 219-2	Locking arm (normal)	Alternatively 21 219-1 (long) 21 219-3 (short)
56	2	810 702	Washer	
57	1	810 703	Washer	
58	1	22 896	Arm	
		40 423	Inner wall, right	Complete

Camera body 555ELD

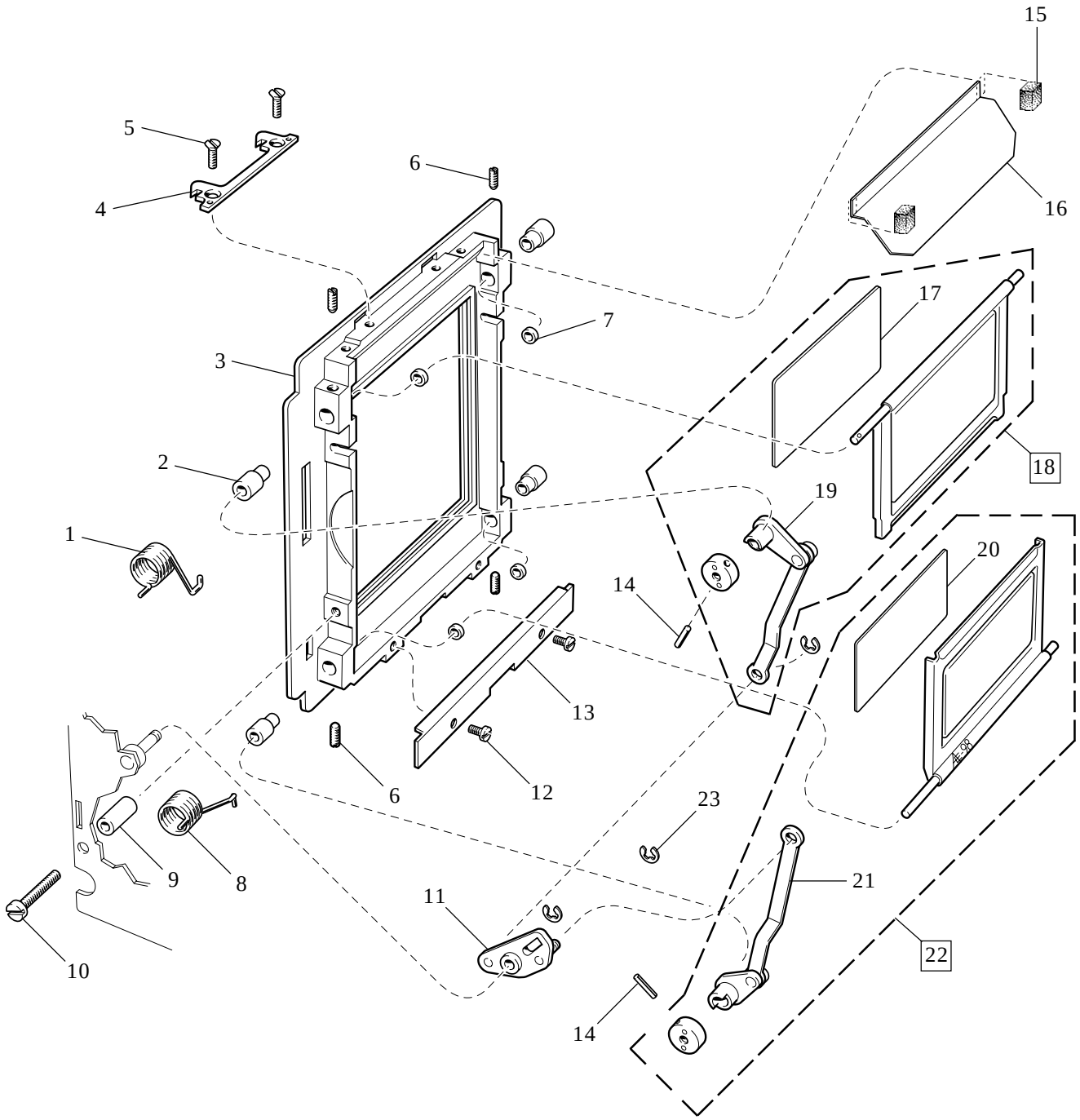


✱ = Soldering should be accomplished in less then 5 seconds. Keep the soldering tip temperature less than 320°C (608°F). Avoid applying force to the terminals.

Camera body 555ELD

Pos No.	Pcs	Spare Part No.	Description	Remark
1	1	22 678	Foam	
2	3	820 014	Screw	
3	1	817 115	Clip	
4	1	22 707	Inner wall, left	
5	1	816 864	Spring	
6	1	22 879	Double-sided tape	
7	2	820 015	Screw	
8	1	22 882	PC-board (incl. tape)	
9	1	12 453	Cable holder	
10	3	820 011	Screw	
11	1	22 918	Attachment	
12	2	823 335	Screw	
13	1	22 470	Socket cap	
14	2	815 511	Spring	
15	2	105 412	Screw	
16	2	-	Double-sided tape	Type Scotch VHB
17	1	852 589	Micro switch	
18	2	22 931	Cable	
19	1	22 915	Contact flex	Complete
20	1	22 576	Bracket	
21	1	22 577	Clip	
22	2	820 325	Screw	
23	1	22 461	Mirror rest	

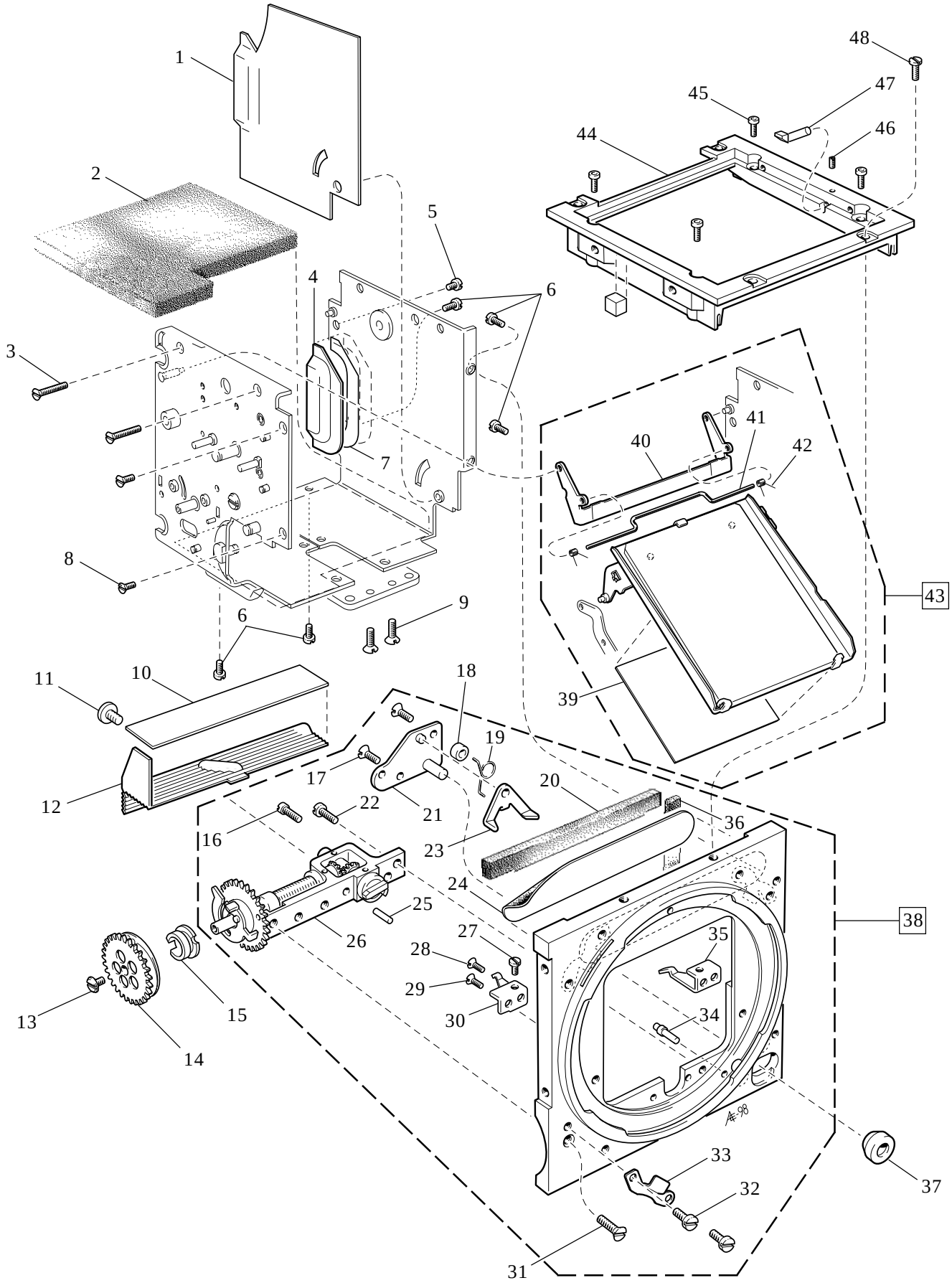
Camera body 555ELD



Camera body 555ELD

Pos No.	Pcs	Spare Part No.	Description	Remark
1	1	816 807	Spring	
2	4	840 514	Hub	
3	1	40 422	Rear plate	Please state serial No.
4	1	22 423	Magazine hook	
5	2	823 640	Screw	
6	4	825 661	Screw	
7	4	810 505	Washer	
8	1	816 806	Spring	
9	1	13 547	Spacer	
10	1	820 025	Screw	
11	1	13 551	Actuating part	
12	2	821 203	Screw	
13	1	13 125	Light trap	
14	2	811 108	Pin	
15	2	13 315	Foam plastic pad	
16	1	22 508	Light shield	
17	1	22 419	Reflection protector	Upper
18	1	90 713	Top flap, co-drilled	
19	1	13 580	Actuating arm	Upper
20	1	22 420	Reflection protector	Lower
21	1	13 552	Actuating arm	Lower
22	1	90 714	Bottom flap, co-drilled	
23	3	817 115	Clip	
		30 791	Rear plate, complete	Please state serial No.

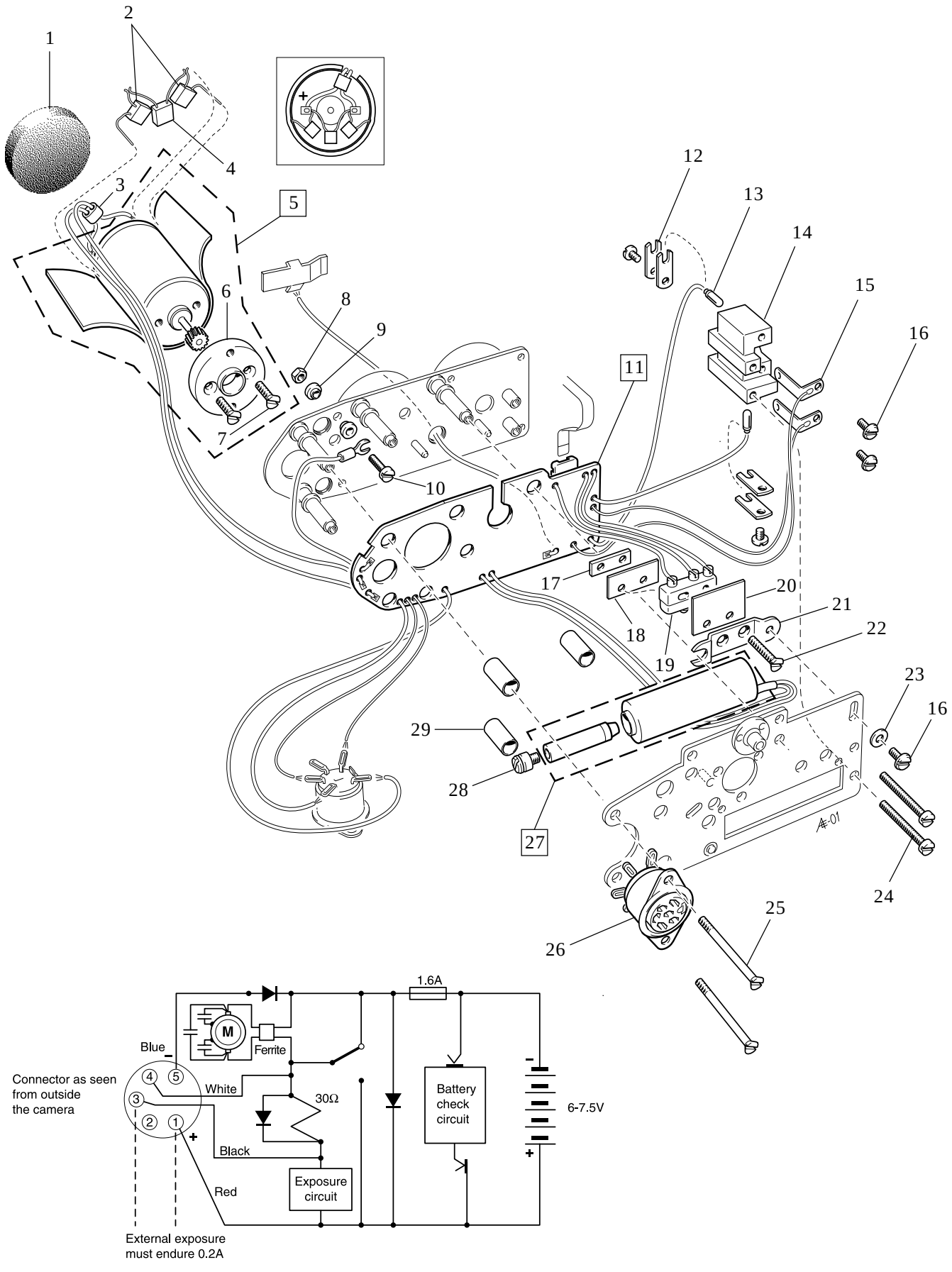
Camera body 555ELD



Camera body 555ELD

Pos No.	Pcs	Spare Part No.	Description	Remark
1	1	22 706	Reflection protector	
2	1	22 513	Foam plastic pad	
3	2	823 028	Screw	
4	1	22 917	Cover	Incl. tape 22 916
5	1	820 013	Screw	
6	5	820 015	Screw	
7	1	22 916	Tape	
8	2	823 015	Screw	
9	2	823 655	Screw	
10	1	22 902	Reflection protector	
11	1	821 031	Screw	
12	1	22 928	Cover	Incl. reflection protector 22 902
13	1	821 033	Screw	
14	1	13 556	Gear	
15	1	21 324	Disc	
16	1	821 009	Screw	
17	2	823 440	Screw	
18	1	810 409	Spacer	
19	1	816 858	Spring	
20	1	22 899	Foam plastic strip	
21	1	105 107	Cover plate	
22	1	820 018	Screw	
23	1	103 440	Lens catch	
24	1	22 527	Reflection protector	
25	1	812 202	Pin	
26	1	30 413	Front gear	
27	2	820 020	Screw	
28	2	823 015	Screw	
29	2	823 017	Screw	
30	1	22 445	Mirror rest, right	
31	1	823 019	Screw	
32	8	820 425	Screw	
33	4	103 439	Bayonet flange	
34	1	836 107	Stop pin	
35	1	22 446	Mirror rest, left	
36	1	13 212	Foam plastic strip	
37	1	103 773	Teflon button	
38	1	30 706	Front bayonet plate	Complete
39	1	22 897-1	Reflection protection	
40	1	30 754	Mirror hinge	
41	1	22 482	Spring	
42	2	816 761	Spring	
43	1	30 716	Mirror	Complete
44	1	22 980	Frame	Incl. magnet
45	4	22 478	Screw	
46	1	825 420	Screw	
47	1	22 467	Light pipe	
48	4	821 017	Screw	

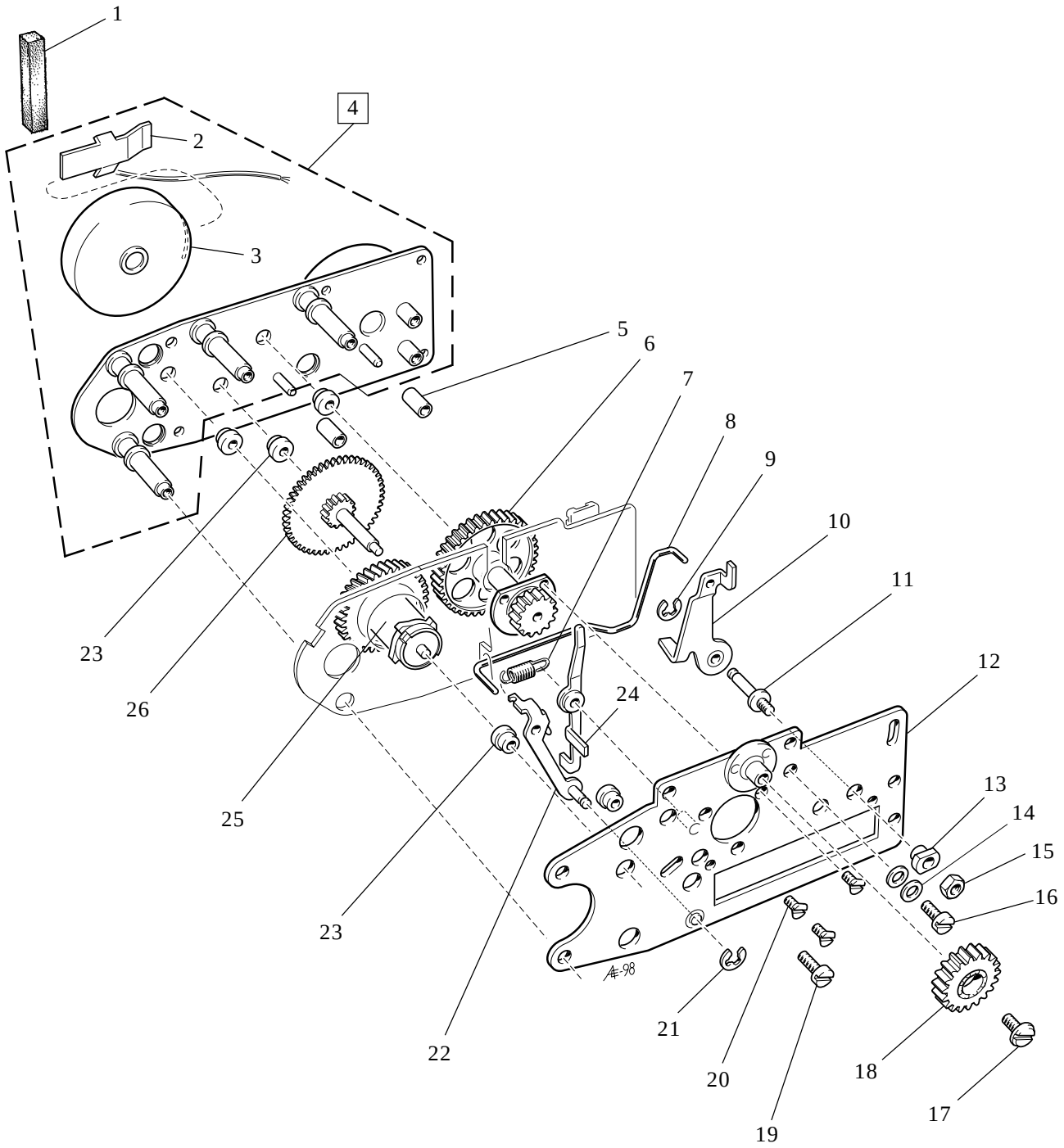
Camera body 555ELD



Camera body 555ELD

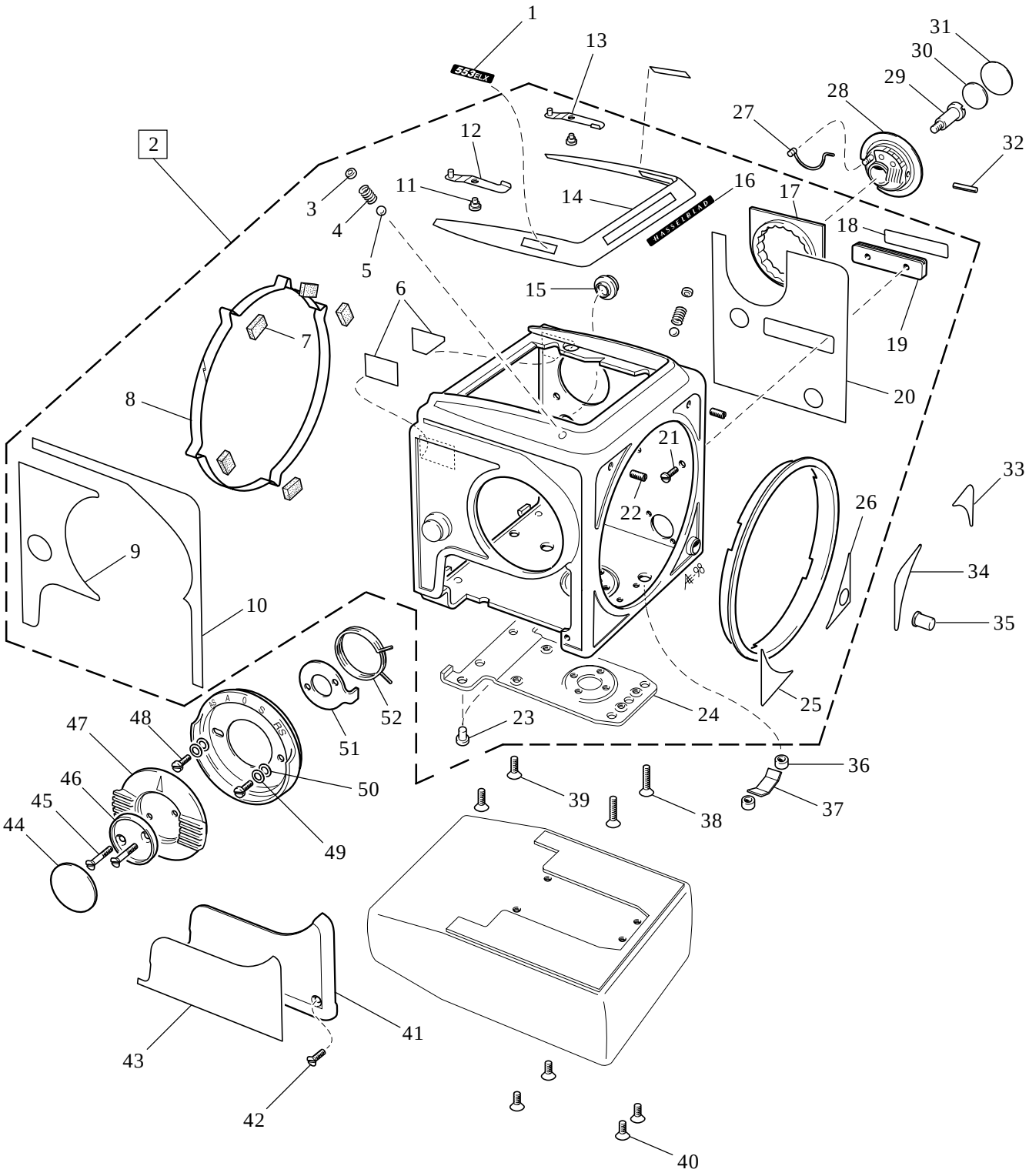
Pos No.	Pcs	Spare Part No.	Description	Remark
1	1	22 823	Foam pad	
2	2	853 587	Capacitor	
3	1	853 042	Ferrite	
4	1	853 549	Capacitor	
5	1	22 827	Motor	
6	1	22 825	Spacer	
7	2	824 703	Screw	
8	1	828 001	Nut	
9	1	13 538	Insulating bushing	
10	1	820 020	Screw	
11	1	22 913	PC board, complete	Incl. cables and side contact
12	4	13 534	Plate spring	
13	2	22 938	Contact pin	
14	1	30 435	Connecting terminal	
15	2	13 535	Contact spring	
16	5	821 033	Screw	
17	1	13 592	Nut	
18	1	13 590	Insulating shim	
19	1	13 605	Micro switch	
20	1	22 903	Insulating shim	
21	1	21 312	Bracket	
22	2	824 614	Screw	
23	1	810 532	Washer	
24	2	820 048	Screw	
25	2	823 049	Screw	
26	1	13 604	Side contact	
27	1	30 421	Solenoid	
28	1	822 062	Screw	
29	3	13 606	Plastic tube	
	1	40 424	Motor unit	Complete

Camera body 555ELD



Pos No.	Pcs	Spare Part No.	Description	Remark
1	1	12 942	Foam plastic strip	
2	1	22 904	Contact spring	
3	2	21 309	Battery holder	
4	1	22 978	Mounting plate, inner	
5	2	13 607	Rubber tube	
6	1	13 565	Gear	
7	1	814 601	Spring	
8	1	22 351	Link	
9	1	817 112	Clip	
10	1	13 571	Stop arm	
11	1	14 100	Bearing pin	
12	1	21 290	Mounting plate, outer	
13	1	22 352	Eccentric	
14	2	810 613	Washer	
15	1	828 001	Nut	
16	1	820 042	Screw	
17	1	821 012	Screw	
18	1	13 566	Gear	
19	1	820 041	Screw	
20	3	824 205	Screw	
21	1	817 115	Clip	
22	1	14 099	Clutch arm	
23	5	13 528	Teflon bearing	
24	1	13 561	Magnet arm	
25	1	13 563	Clutch gear	
26	1	13 564	Gear	

Camera body 553 ELX/500ELX



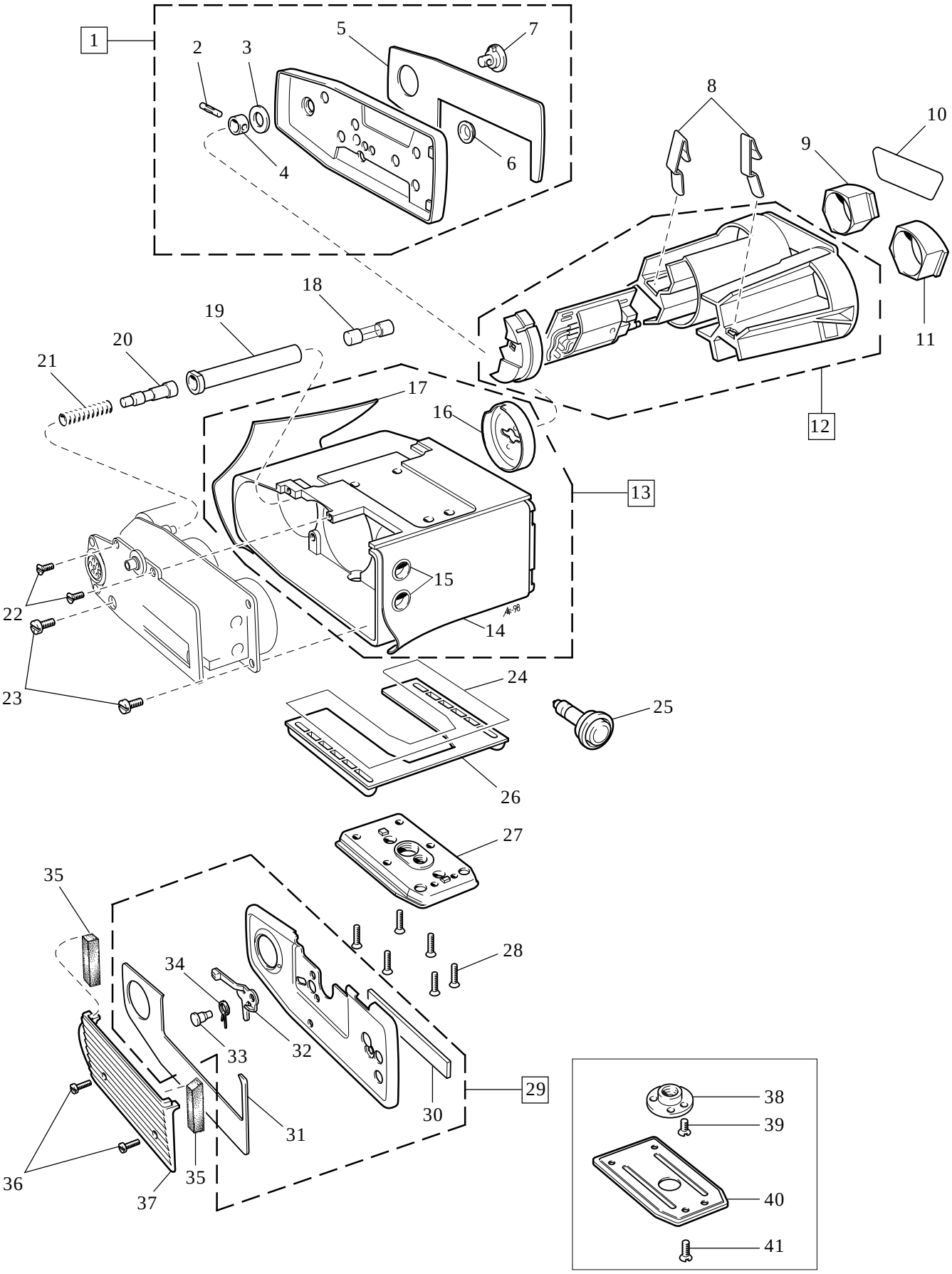
Camera body 553 ELX/500ELX

Pos No.	Pcs	Spare Part No.	Description	Remark
1	2	22 610	Name plate	
2	1	40 364	Shell 553ELX, complete	Chrome, (Note! P/N 40331 not incl.)
	1	40 365	Shell 553ELX, complete	Black, (Note! P/N 40331 not incl.)
	1	40 335	Shell 500ELX, complete	Chrome
	1	40 334	Shell 500ELX, complete	Black
3	2	12 978	Plate	
4	2	815 604	Spring	
5	2	809 120	Steel ball	
6	2	22 514	Reflection protector	
7	5	13 315	Foam plastic pad	
8	1	22 515	Locking ring	
9	1	105 509	Leather	
10	1	103 596	Leather	
11	2	835 001	Rivet	
12	1	13 906	Holder, right	
13	1	13 907	Holder, left	
14	1	105 926	Leather	553ELX
	1	103 511	Leather	500ELX
15	2	13 466	Strap button	
16	1	13 190-1	Name plate	
17	1	40 331	ISO plate	
18	1	22 607	Leather	553ELX
	1	22 448	Name plate	500ELX
19	1	22 472	Accessory rail	
20	1	22 455	Leather	
21	2	821 661	Screw	
22	2	825 760	Screw	
23	2	831 502	Rivet	
24	1	103 327	Magazine support	
25	1	103 594	Leather	
26	1	103 510	Leather	
27	1	22 587	Spring	
28	1	22 495	ISO Selector	
29	1	822 701	Screw	
30	1	22 473	Shim	
31	1	13 374	Leather	
32	1	22 533	Dog	
33	1	103 508	Leather	
34	1	103 507	Leather	
35	1	13 139	Lens release button	
36	2	810 620	Spacer	
37	1	103 424	Spring	
38	2	823 781	Screw	
39	2	823 755	Screw	
40	4	823 745-1	Screw	
41	1	30 424-1	Cover	Chrome
	1	30 631	Cover	Black
42	1	823 017-1	Screw	
43	1	13 608	Leather	
44	1	13 374	Leather	
45	2	823 023	Screw	
46	1	13 596	Plate	
47	1	30 429	Selector knob	

Camera body 553 ELX/500ELX

Pos No.	Pcs	Spare Part No.	Description	Remark
48	2	820 014	Screw	
49	2	810 613	Washer	
50	2	810 607	Washer	
51	1	13 541	Washer	
52	1	816 906	Spring	

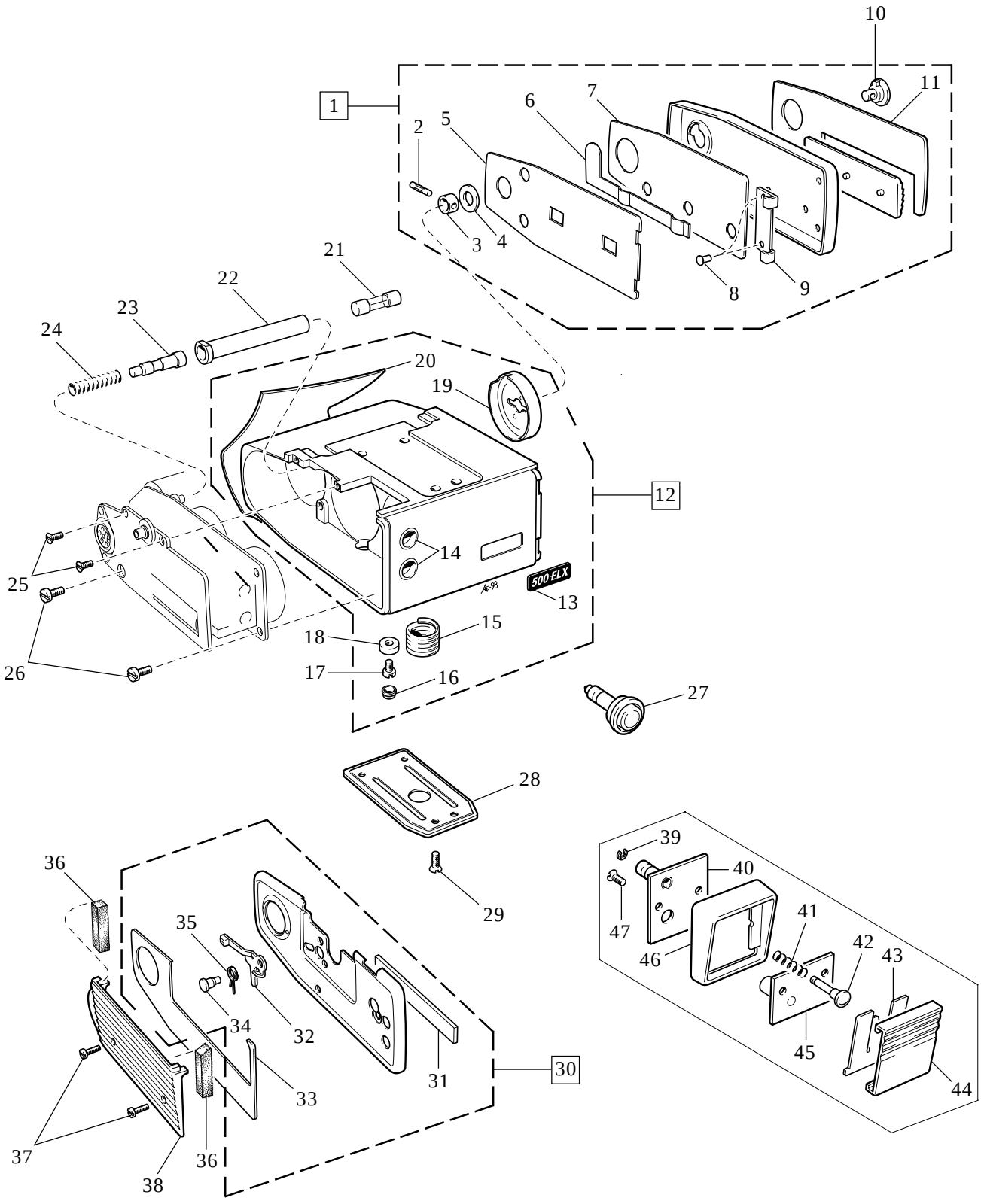
Camera body 553ELX



Camera body 553ELX

Pos No.	Pcs	Spare Part No.	Description	Remark
1	1	30 737	Battery cover, compl. (chrome)	Part No.30 742 (black)
2	1	812 505	Pin	
3	1	810 864	Washer	
4	1	13 550	Spacer	
5	1	21 317	Leather	
6	1	30 739	Rubber cap	
7	1	21 304	Turn button	
8	2	30 745	Contact spring	
9	1	41 001	Insert, right	
10	1	22 682	Sign + -	
11	1	41 000	Insert, left	
12	1	50 178	Battery compartment	
13	1	30 787	Motor housing, complete	
	1	30 740	Motor housing, complete	Previous type, please see Service Info No. 6/97
14	1	22 844	Leather	
15	2	13 529	Nylon bushing	
16	1	13 585	Cap	
17	1	22 845	Leather	
18	1	13 593	Fuse	
19	1	22 342	Insulating tube	
20	1	21 305	Fuse holder	
21	1	815 855	Spring	
22	2	823 017	Screw	
23	2	820 042	Screw	
24	1	22 846	Tape	
25		-	Release button	Sales code No. 46120
26	1	30 778	Rubber support	
27	1	30 763	Tripod foot	
28	6	829 790	Screw	
29	1	21 292	Cover, complete (chrome)	Part No. 22 117 (black)
30	1	13 545	Shim	
31	1	21 317	Leather	
32	1	21 283	T-arm	
33	1	835 330	Pin	
34	1	816 826	Spring	
35	2	22 530	Light seal	
36	2	820 019	Screw	
37	1	40 202	Plastic grip, right	
38	1	22 584	Tripod socket standard 1/4"	Previous type tripod foot
		22 667	Tripod socket standard 3/8"	"
39	4	823 770	Screw	"
40	1	103 349	Slide	"
41	4	823 745	Screw	"

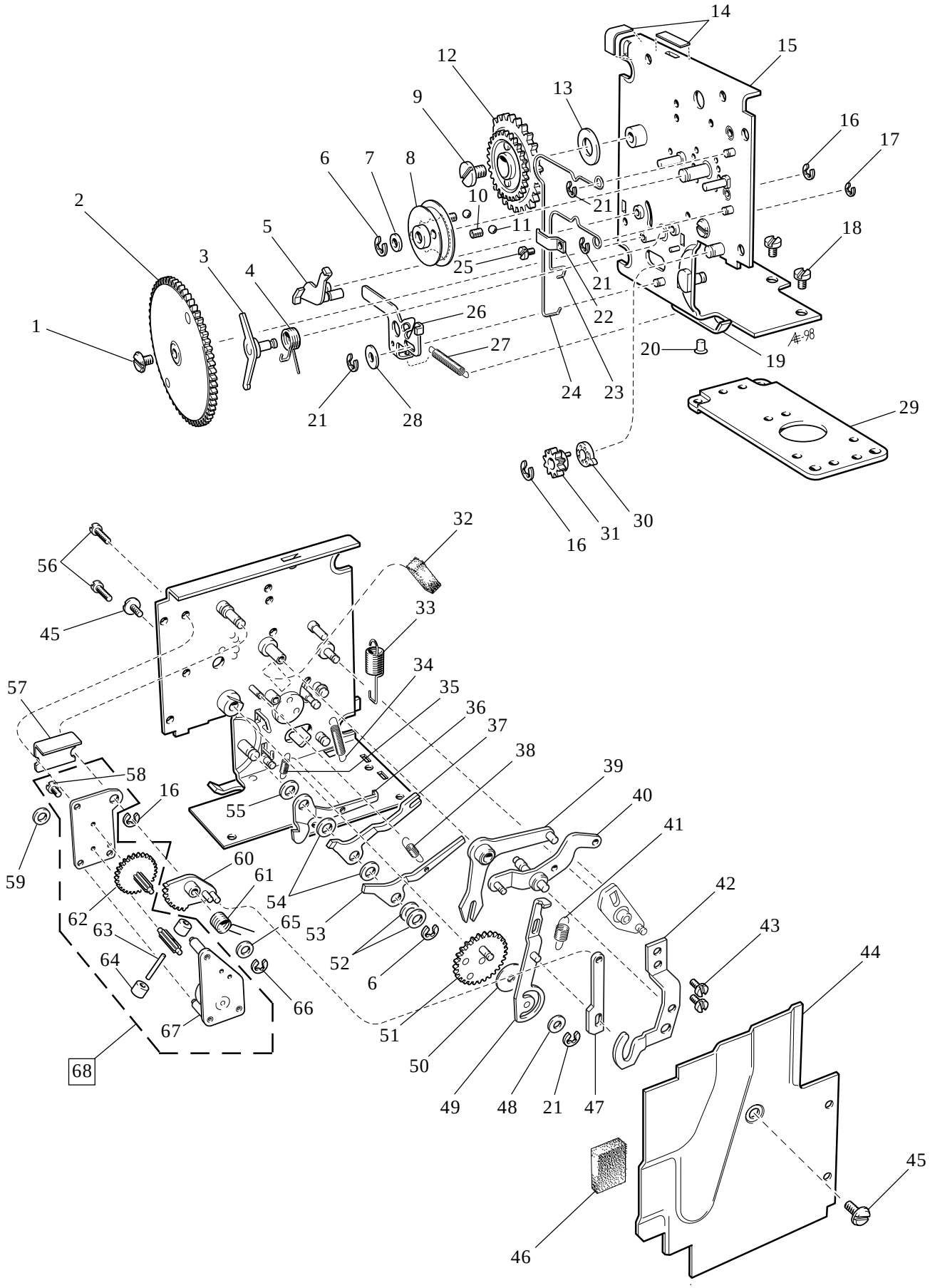
Camera body 500ELX



Camera body 500ELX

Pos No.	Pcs	Spare Part No.	Description	Remark
1	1	22 118	Battery cover, compl. (black)	Chrome, no longer available
2	1	812 505	Pin	
3	1	13 550	Spacer	
4	1	810 864	washer	
5	1	21 320	Plate	
6	1	21 318	Contact spring	
7	1	21 319	Plate	
8	2	833 103	Rivet	
9	1	21 301	Catch	
10	1	21 304	Turn button	
11	1	21 317	Leather	
12	1	30 685	Motor housing	Complete
13	1	22 485	Name plate	
14	2	13 529	Nylon bushing	
15	1	827 810	Heli-coil	
16	4	13 598	Rubber foot	
17	4	820 012	Screw	
18	4	13 599	Cap	
19	1	13 585	Cap	
20	1	21 314	Leather	
21	1	13 593	Fuse	
22	1	22 342	Insulating tube	
23	1	21 305	Fuse holder	
24	1	815 855	Spring	
25	2	823 017	Screw	
26	2	820 042	Screw	
27		-	Release button	Sales code No. 46120
28	1	103 349	Slide	
29	4	823 745	Screw	
30	1	21 292	Cover, complete (chrome)	Part No. 22 117 (black)
31	1	13 545	Shim	
32	1	21 283	T-arm	
33	1	21 317	Leather	
34	1	835 330	Pin	
35	1	816 826	Spring	
36	2	22 530	Light seal	
37	2	820 019	Screw	
38	1	40 202	Plastic grip, right	
39	1	817 112	Clip	
40	1	402 102	Rear plate	
41	1	815 605	Spring	
42	1	402 436	Button	
43	1	402 345	Plate spring	
44	1	402 425	Plate	
45	1	402 103	Mounting plate	
46	1	402 322	Frame	
47	2	823 640	Screw	

Camera body 553ELX/500ELX



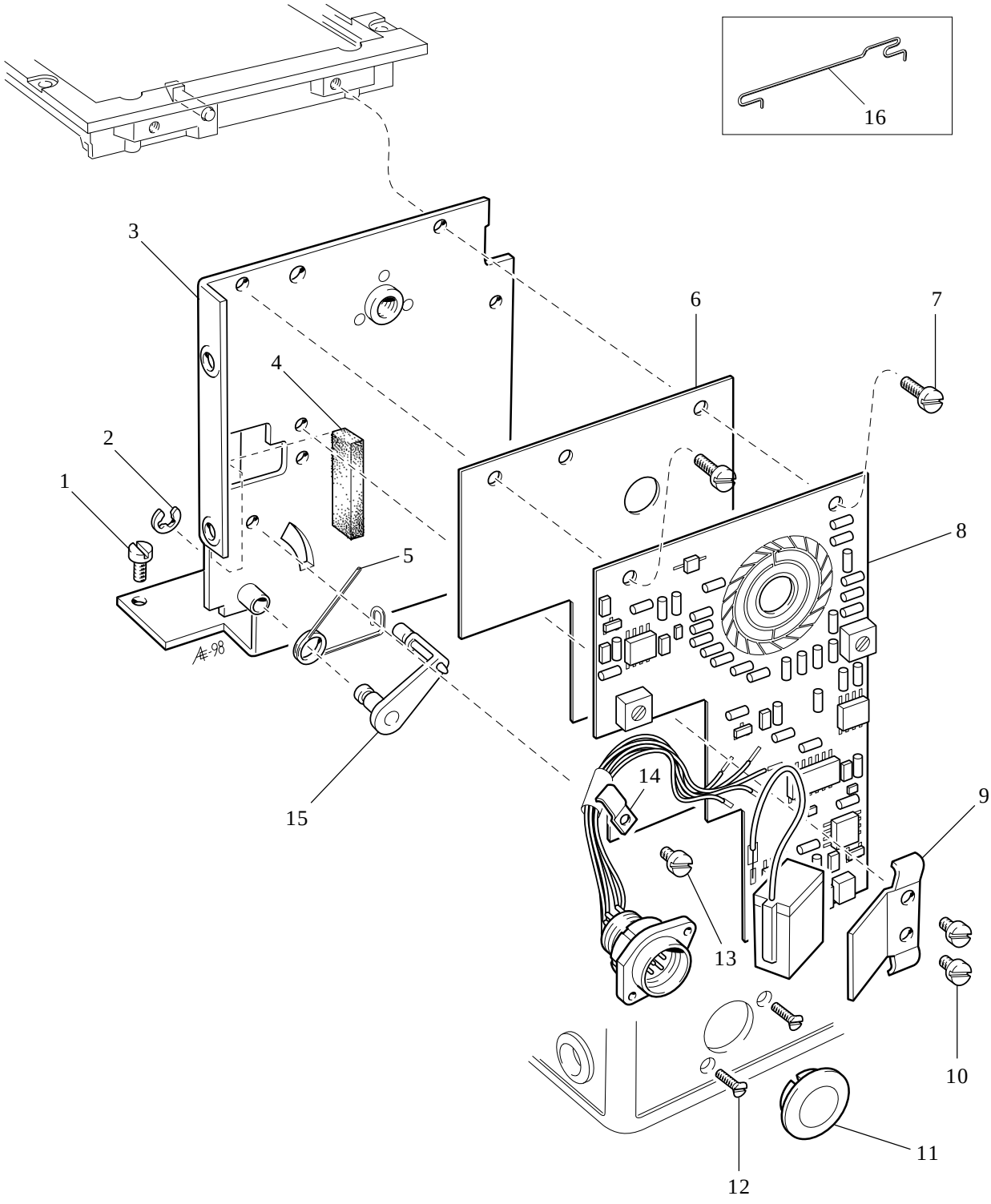
Camera body 553ELX/500ELX

Pos No.	Pcs	Spare Part No.	Description	Remark
1	1	821 033	Screw	
2	1	13 557	Gear	
3	1	13 570	Release catch	
4	1	816 608	Spring	
5	1	22 922	Release arm	
6	2	817 123	Clip	
7	1	810 702	Washer	
8	1	13 599	Selector	
9	1	821 012	Screw	
10	2	815 604	Spring	
11	2	809 020	Steel ball	
12	1	13 558	Gear	
13	1	810 854	Washer	
14	2	22 943	Light seal "palpas"	
15	1	30 704	Inner wall, right	
16	2	817 119	Clip	
17	1	817 112	Clip	
18	3	820 014	Screw	
19	1	22 317	Stop	
20	2	832 315	Rivet	
21	4	817 115	Clip	
22	1	12 453	Holder	
23	1	21 223	S-wire	
24	1	21 224	A-wire	
25	1	820 011	Screw	
26	1	30 793	Release lever	
27	1	814 309	Spring	
28	1	810 538	Washer	
29	1	30 686	Bottom plate	
30	1	13 525	Dog	
31	1	13 567	Gear	
32	1	-	Foam plastic pad	
33	1	814 862	Spring	
34	1	814 706	Spring	
35	1	814 302	Spring	
36	1	21 221	B-arm	
37	1	22 923	S-arm	
38	1	814 509	Spring	
39	1	13 554	Auxiliary shutter arm	
40	1	22 460	Mirror lever	
41	1	814 861	Spring	
42	1	30 701	Support	
43	2	820 013	Screw	
44	1	22 529	Inner cover	
45	2	821 036	Screw	
46	1	22 528	Foam plastic pad	
47	1	22 498	Link	
48	1	810 532	Washer	
49	1	22 458	Mirror actuating arm	
50	1	810 761	Washer	
51	1	22 476	Gear	
52	2	810 705	Washer (0,20 mm)	Alternatively 810 702/703 (0,05/0,10 mm)

Camera body 553ELX/500ELX

Pos No.	Pcs	Spare Part No.	Description	Remark
53	1	21 219-2	Locking arm (normal)	Alternatively 21 219-1 (long) 21 219-3 (short)
54	2	810 702	Washer	
55	1	810 703	Washer	
56	2	820 345	Screw	
57	1	22 519	Stop	
58	3	820 320	Screw	
59	1	810 609	Washer	
60	1	22 496	Cog sector	
61	1	816 760	Torsion spring	
62	1	103 104	Gear	
63	1	812 008	Pin	
64	2	103 461	Weight	
65	1	810 611	Washer	
66	1	817 112	Clip	
67	1	103 133	Mounting plate	
68	1	22 500	Mirror braking mechanism	
		40 333	Inner wall, right	Complete

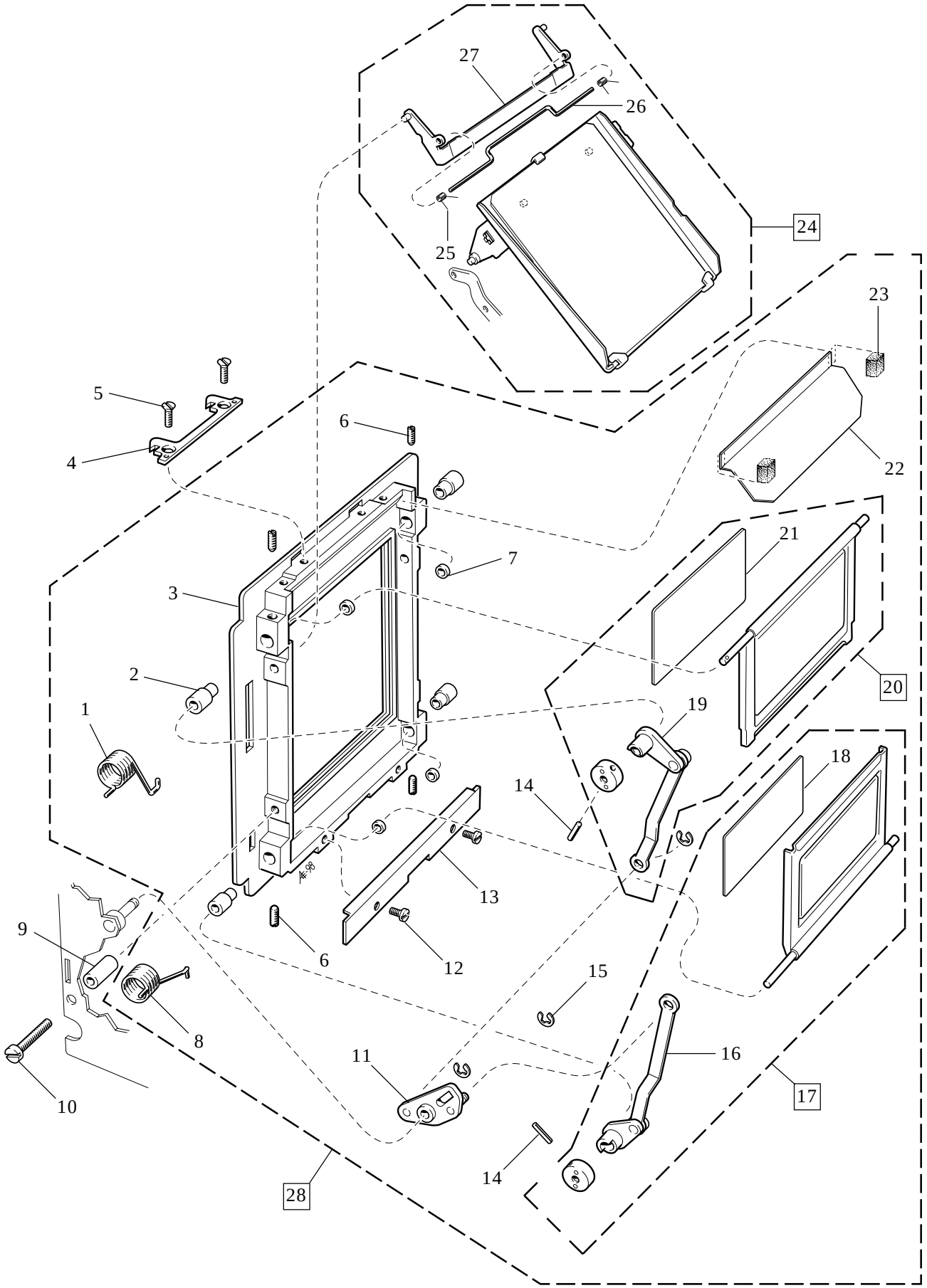
Camera body 553ELX/500ELX



Camera body 553ELX/500ELX

Pos No.	Pcs	Spare Part No.	Description	Remark
1	3	820 014	Screw	
2	1	817 115	Clip	
3	1	22 477	Inner wall, left	
4	1	22 678	Foam	
5	1	816 864	Spring	
6	1	22 746	Insulating plate	
7	2	820 015	Screw	
8	1	22 494	PC-board	
9	1	22 453	Attachment	
10	2	820 011	Screw	
11	1	22 470	Socket cap	
12	2	823 335	Screw	
13	1	820 011	Screw	
14	1	12 453	Cable holder	
15	1	22 461	Mirror rest	
16	1	22 456	Spring	Previous type PC-board

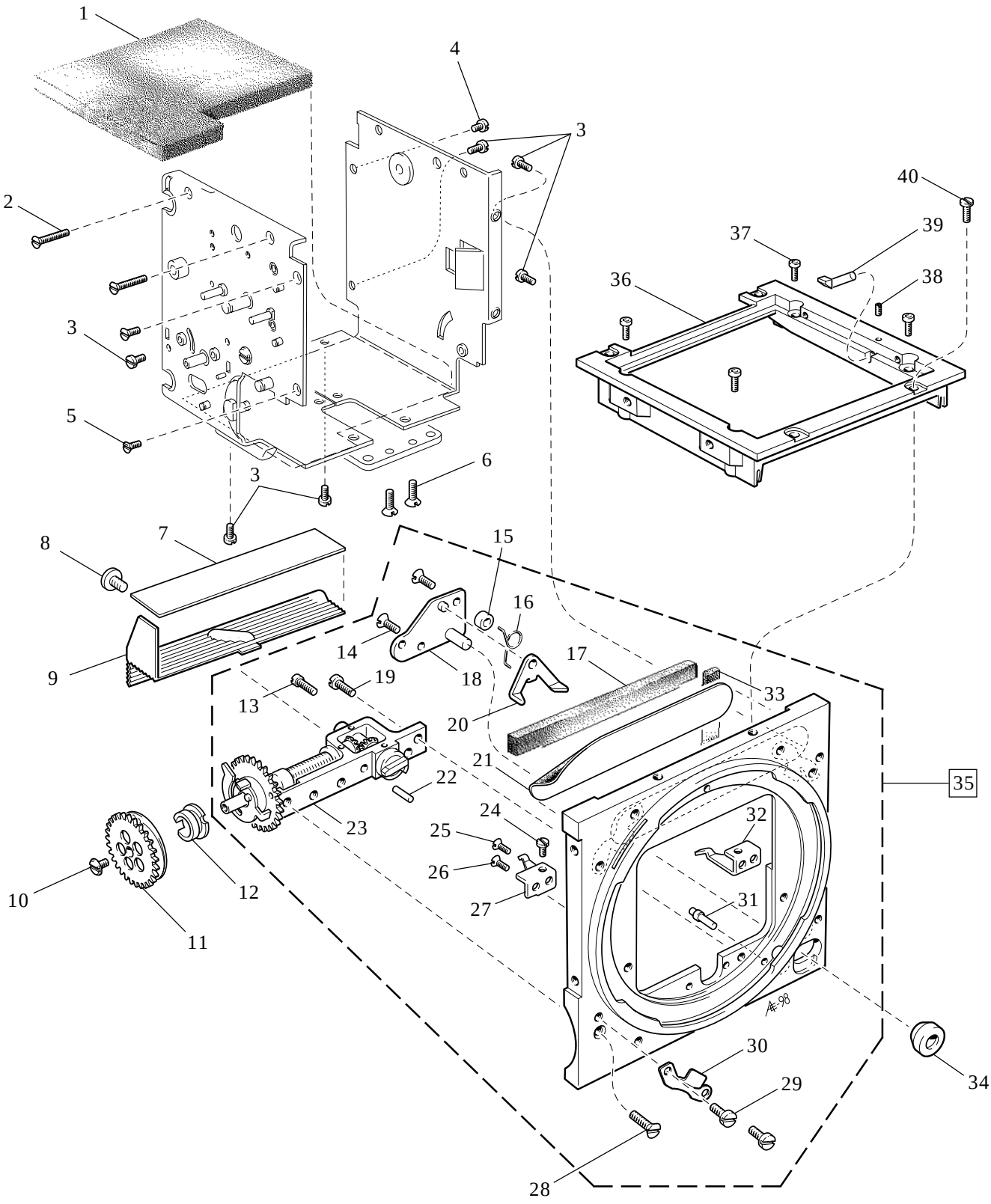
Camera body 553ELX/500ELX



Camera body 553ELX/500ELX

Pos No.	Pcs	Spare Part No.	Description	Remark
1	1	816 807	Spring	
2	4	840 514	Hub	
3	1	40 367	Rear plate	Please state serial No.
4	1	22 423	Magazine hook	
5	2	823 640	Screw	
6	4	825 661	Screw	
7	4	810 505	Washer	
8	1	816 806	Spring	
9	1	13 547	Spacer	
10	1	820 025	Screw	
11	1	13 551	Actuating part	
12	2	821 203	Screw	
13	1	13 125	Light trap	
14	2	811 108	Pin	
15	3	817 115	Clip	
16	1	13 552	Actuating arm	Lower
17	1	90 714	Bottom flap, co-drilled	
18	1	22 420	Reflection protector	Lower
19	1	13 580	Actuating arm	Upper
20	1	90 713	Top flap, co-drilled	
21	1	22 419	Reflection protector	Upper
22	1	22 508	Light seal	
23	2	13 315	Foam plastic pad	
24	1	30 707	Mirror, complete	
25	2	816 761	Spring	
26	1	22 482	Spring	
27	1	22 459	Mirror hinge	
28	1	30 703	Rear plate, complete	Please state serial No.

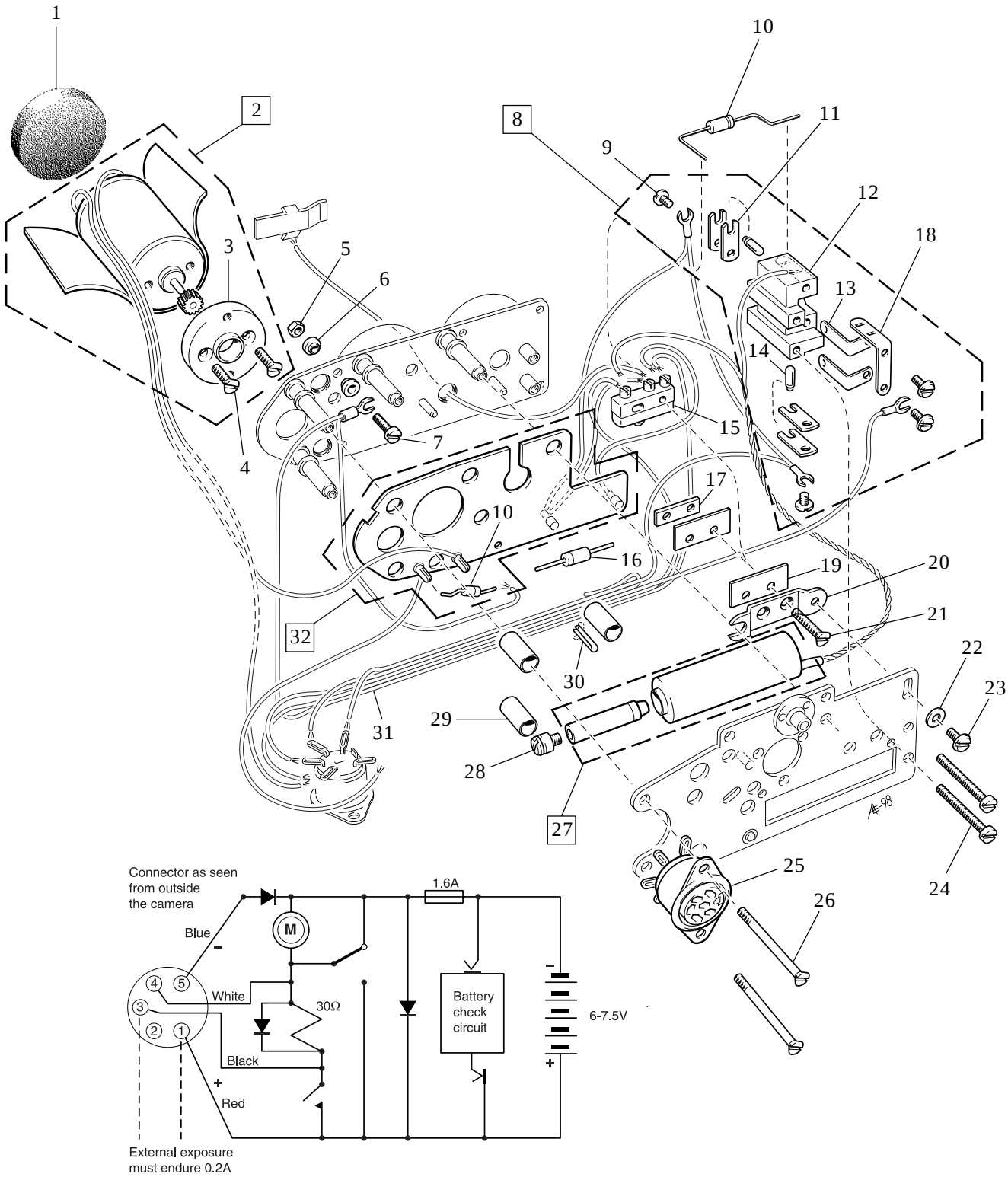
Camera body 553ELX/500ELX



Camera body 553ELX/500ELX

Pos No.	Pcs	Spare Part No.	Description	Remark
1	1	22 513	Foam plastic pad	
2	2	823 028	Screw	
3	6	820 015	Screw	
4	1	820 013	Screw	
5	2	823 015	Screw	
6	2	823 655	Screw	
7	1	22 902	Reflection protector	
8	1	820 031	Screw	
9	1	22 928	Cover	Incl. reflection protector 22 902
10	1	821 033	Screw	
11	1	13 566	Gear	
12	1	21 324	Disc	
13	1	821 009	Screw	
14	2	823 440	Screw	
15	1	810 409	Spacer	
16	1	816 858	Spring	
17	1	22 512	Foam plastic strip	
18	1	105 107	Cover plate	
19	1	820 018	Screw	
20	1	103 440	Lens catch	
21	1	22 527	Reflection protector	
22	1	812 202	Pin	
23	1	30 413	Front gear	
24	2	820 020	Screw	
25	2	823 015	Screw	
26	2	823 017	Screw	
27	1	22 445	Mirror rest, right	
28	1	823 019	Screw	
29	8	820 425	Screw	
30	4	103 439	Bayonet flange	
31	1	836 107	Stop pin	
32	1	22 446	Mirror rest, left	
33	1	13 212	Foam plastic strip	
34	1	103 773	Teflon button	
35	1	30 706-1	Front bayonet plate	Complete
36	1	40 324	Frame	
37	4	22 478	Screw	
38	1	825 420	Screw	
39	1	22 467	Light pipe	
40	4	821 017	Screw	

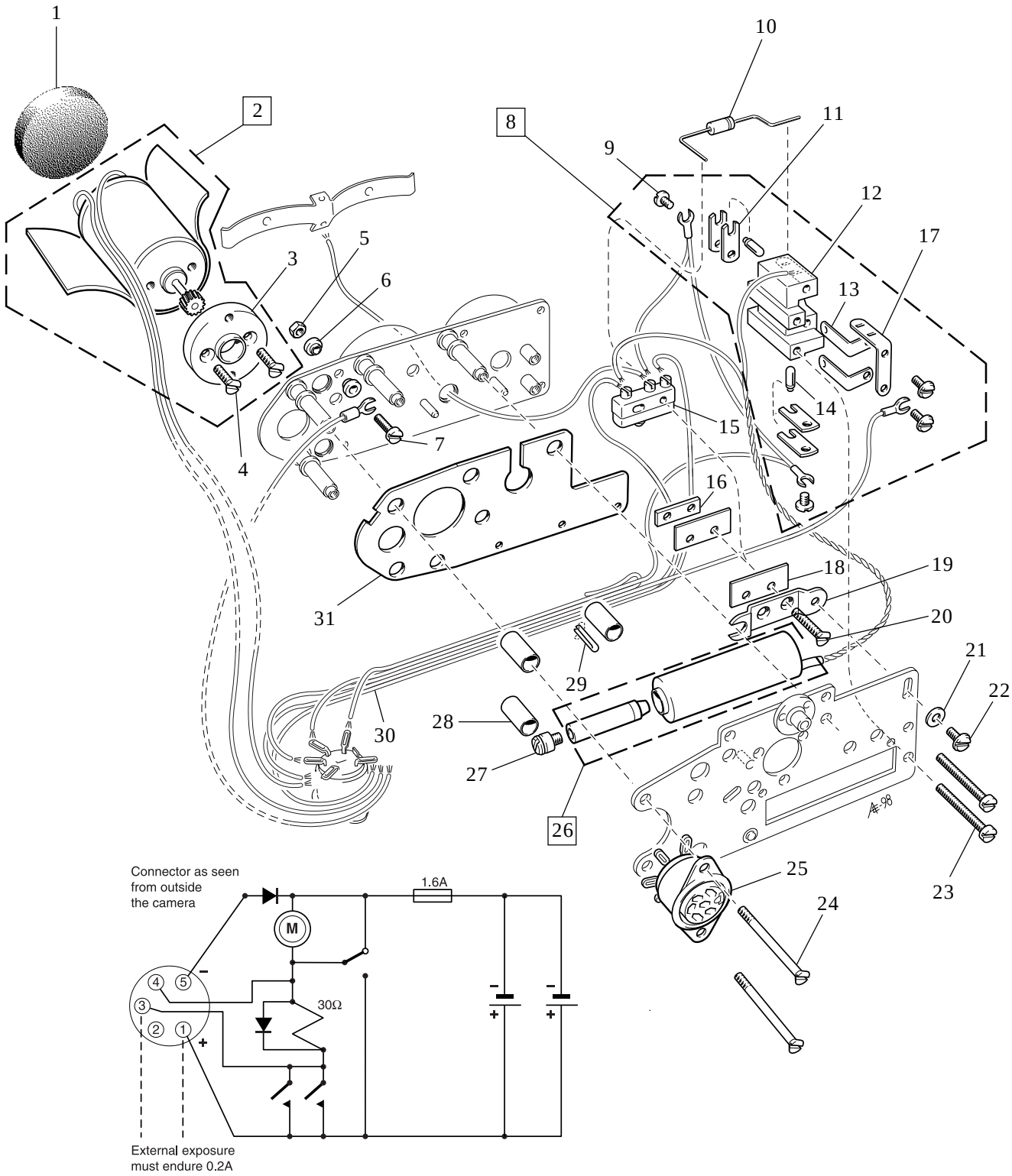
Camera body 553ELX



Camera body 553ELX

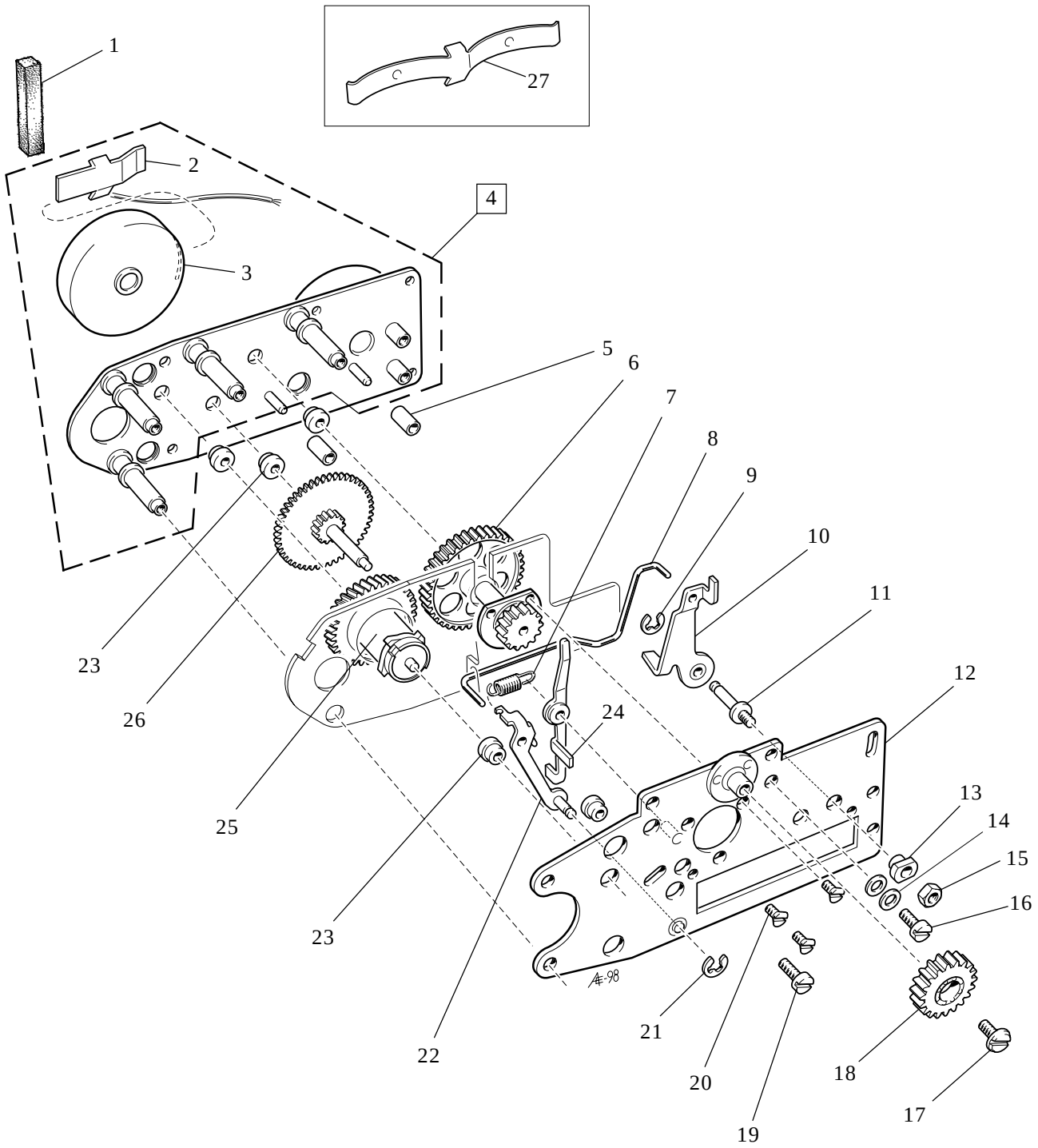
Pos No.	Pcs	Spare Part No.	Description	Remark
1	1	22 823	Foam pad	
2	1	22 827	Motor	
3	1	22 825	Spacer	
4	2	824 703	Screw	
5	1	828 001	Nut	
6	1	13 538	Insulating bushing	
7	1	820 020	Screw	
8	1	13 572	Connecting terminal	Complete
9	4	821 033	Screw	
10	2	853 535	Diode	
11	4	13 534	Plate spring	
12	1	30 435	Connecting terminal	
13	2	13 535	Contact spring	
14	2	13 533	Contact pin	
15	1	13 605	Micro switch	
16	1	853 437	Diode	
17	1	13 592	Nut	
18	1	21 357	Contact strip	
19	2	13 590	Insulating shim	
20	1	21 312	Bracket	
21	2	824 614	Screw	
22	1	810 532	Washer	
23	1	821 033	Screw	
24	2	820 048	Screw	
25	1	13 604	Side contact	
26	2	823 049	Screw	
27	1	30 421	Solenoid	
28	1	822 062	Screw	
29	3	13 606	Plastic tube	
30	4	13 603	Clip	
31	1	22 640	Ribbon cable	Complete
32	1	22 642	Insulating plate	
	1	40359	Motor unit	Complete

Camera body 500ELX



Pos No.	Pcs	Spare Part No.	Description	Remark
1	1	22 823	Foam pad	
2	1	22 827	Motor	
3	1	22 825	Spacer	
4	2	824 703	Screw	
5	1	828 001	Nut	
6	1	13 538	Insulating bushing	
7	1	820 020	Screw	
8	1	13 572	Connecting terminal	Complete
9	4	821 033	Screw	
10	1	853 535	Diode	
11	4	13 534	Plate spring	
12	1	30 435	Connecting terminal	
13	2	13 535	Contact spring	
14	2	13 533	Contact pin	
15	1	13 605	Micro switch	
16	1	13 592	Nut	
17	1	21 357	Contact strip	
18	2	13 590	Insulating shim	
19	1	21 312	Bracket	
20	2	824 614	Screw	
21	1	810 532	Washer	
22	1	821 033	Screw	
23	2	820 048	Screw	
24	2	823 049	Screw	
25	1	13 604	Side contact	
26	1	30 421	Solenoid	
27	1	822 062	Screw	
28	3	13 606	Plastic tube	
29	4	13 603	Clip	
30	1	22 640	Ribbon cable	Complete
31	1	22 642	Insulating plate	
	1	40241	Motor unit	Complete

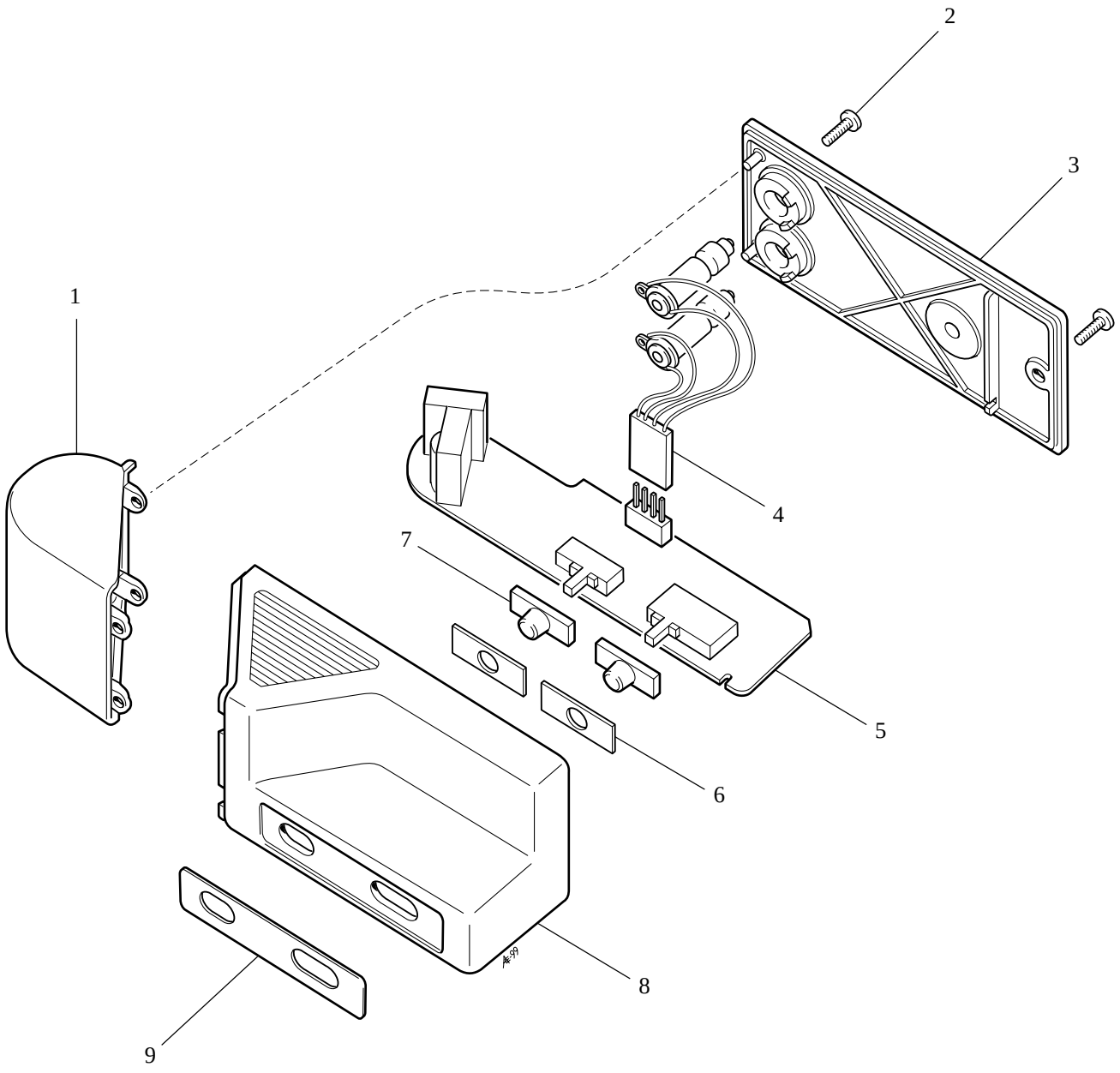
Camera body 553ELX/500ELX



Camera body 553ELX/500ELX

Pos No.	Pcs	Spare Part No.	Description	Remark
1	1	12 942	Foam plastic strip	
2	1	22 646	Contact spring	
3	2	21 309	Battery holder	
4	1	22 645	Mounting plate, inner	
5	2	13 607	Rubber tube	
6	1	13 565	Gear	
7	1	814 601	Spring	
8	1	22 351	Link	
9	1	817 112	Clip	
10	1	13 571	Stop arm	
11	1	14 100	Bearing pin	
12	1	21 290	Mounting plate, outer	
13	1	22 352	Eccentric	
14	2	810 613	Washer	
15	1	828 001	Nut	
16	1	820 042	Screw	
17	1	821 012	Screw	
18	1	13 566	Gear	
19	1	820 041	Screw	
20	3	824 205	Screw	
21	1	817 115	Clip	
22	1	14 099	Clutch arm	
23	5	13 528	Teflon bearing	
24	1	13 561	Magnet arm	
25	1	13 563	Clutch gear	
26	1	13 564	Gear	
27	1	13 568	Contact spring	500ELX

IR Release unit



IR Release unit

Pos No.	Pcs	Spare Part No.	Description	Remark
1	1	40 421	Cover	
2	2	826 025	Screw	
3	1	50 207	Cover	
4	1	22 909	Contact assembly	
5	1	22 908	PC-board	
6	2	439 403	Dust guard	
7	2	439 401	Button cover	
8	1	50 206	Housing	
9	1	22 905	Sign	